The Missouri Supervisor,

— OR —

GUIDE IN THE USE OF THE ADOPTED TEXT-BOOKS.

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THE MISSOURI SUPERVISOR,

OR

GUIDE IN THE USE

OF THE

ADOPTED TEXT-BOOKS.

BY

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AND
FRANK DEERWESTER.

PREFACE.

THE authors of this book are not at war with existing educational conditions and ideals. Being Missourians by birth, educated largely in Missouri schools, and having been for years teachers of Missouri youth, they have faith in her educational system and hope for her future.

It is a grand work that is going on in this state under the name of education. Within the narrow circle of their influence the authors have been contributing their mite toward the great end. Now they seek to widen this circle, modestly daring to hope that their humble efforts may not be in vain.

Originality in the sense of startling novelty is not claimed for this book. It does not pretend to reveal the royal road to knowledge. The authors do not believe this is the best book on the subject of pedagogics that has ever been written. On the other hand they do believe that Experience, in her varied intercourse with them, has taught them some lessons which may be presented to others in a less expensive way.

With 3,000 inexperienced teachers entering the profession each year, with nearly 4,000 more having less than three years' experience in teaching, and with the new and improved series of text-books now going into use, there ought to be room for such a book at this time.

The recommendations of this work are not believed to be radical. Conservatism in plan and method has been the aim. Nothing impossible or chimerical has been advocated. The aim is to direct the thoughtful, aspiring teacher, whether experienced or inexperienced, by safe paths, and yet possibly new ones, to higher ground—to direct not by an explicit "take thou," but by thought-provoking suggestions. These, so far as they may be of value, the artist will absorb and embody in his teaching. The artisan, the rote-teacher, will not be injured by them.

The authors have sometimes been at a loss to know just how far to go in their recommendations. Writing for so mixed an audience is no easy task. In the main the plan has been to address themselves in a suggestive way to the majority of their prospective readers. The great teaching-body of Missouri has been the audience which imagination has convoked. No attempt has been made to show what can be done where all the engines and energies of a mighty city school system are turned in any given direction. On the other hand, it is confidently hoped that the work herein presented, as to matter and method, is such as will be an inspiration to many thousands in Missouri's noble army of teachers.

THE AUTHORS.

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PART FIRST.

CHAPTER I.

COURSE OF STUDY.

INTRODUCTION.

THE course of study which follows is not theoretical, nearly every part of it having been worked out, directly or indirectly, under the observation of its authors. Notwithstanding the dissimilarities of rural, village, and town schools, it is believed that this course of study is suitable for each. It may be said, however, that if any class of the three has, more than the others, been in the authors' minds, it has been the first—the rural school. To understand the foregoing remarks requires an appreciation of the authors' idea of the purpose of such a course for any kind of school.

A course of study, they believe, is intended primarily to set forth the contemporaneous sections of those great

lines of human thought which are deemed worthy of the attention of persons in pursuit of knowledge. The primary question is not so much where the line shall be drawn between the successive years as it is *what work in language, science, numbers, etc.*, shall be pursued contemporaneously. This is the question of vital importance. The authors' answer to this question is the course of study. Incidentally they have answered the former question, too, realizing, however, that "school year" is only a relative term—meaning anywhere from six to ten months. The work as outlined contemplates at least seven months. Eight will result in better work, and nine, of course, will be still more satisfactory. In some schools the work suggested for a year may be accomplished easily and more may be desired. If so, there are two courses open: one is taking up supplementary work of a related kind, the other is advancing into the work of the next year. Where schools can not do the work suggested, the opposite courses are open—omitting parts of least importance or ending the year at such a point as marks the well-completed work. It may be seen, therefore, that the course of study is to be used as a spirit-level to keep the structure plumb more than as a tape-line to ascertain the height. Character of work is deemed of greater significance than amount of work—a symmetrical advancement along all lines superior to an abnormal development along a single line.

This unsymmetrical, "lop-sided," sort of development is so prevalent in rural schools that the authors sincerely hope that this work may, at least, do something toward bringing matters to rights once more. Where a pupil or a

school has advanced in this abnormal and unhealthy way, the evil can not be cured in a day. To attempt to do so would be unwise. Gradually must the pupil or the school be "evened up," by checking here and pushing there, devoting little effort to one line, much effort to the other.

A.—BY GRADES.

	Reading.	Writi'g	Spelling.	Numbers and Arithmetic.	Language and Grammer.	Geography.	History.	Civil Goverm't.	Physiol'y
1st yr.	First Reader, and Supplementary Work	No. I.	From First Reader.	All Combinations to 10.	Oral.	Oral			Oral.
2nd yr.	2nd Reader, and Supplementary Work	No. II.	From Reader & Speller, pp. 1-36.	All Combinations from 10 to 20.	Oral and Written.	Oral.			Oral.
3rd yr.	3rd Reader, and Supplementary Work	No. III.	Speller, pp. 30-60.	Multiplication and Division to 10's, Elemen'y to p. 118. White's O'l to p. 22	DeGarmo's, Part I, and Supplementary Work.	Oral, also mapping School-Room, Twp. Co. and State.			Oral.
4th yr.	4th Reader, to Page 204, and Supplementary Work	No. IV.	Speller, pp. 60-90.	Elementary, pp. 118-188. "Oral," pp. 23-57, 55-48, 55-68, 73-98. (Omit where too difficult)	DeGarmo's, Part II, and Supplementary Work.	Rand-McNlly's Elementary to page 78.			Oral.
5th yr.	4th Reader, Completed, and Supplementary Work	No. V.	Speller, pp. 90-120.	1st Term, Eleme'y pp. 188-231; "Oral" pp. 103-123; 2 Term Standard, pp. 1-90. Oral 28-34, 45-54, 65.	DeGarmo's, Parts III and IV, and Supplementary Work.*	Elementary, pp. 78-152, Supplementary Work			Oral.
6th yr.	5th Reader, to Page 201, and Supplementary Work	No. VI.	Speller, pp. 120-150.	Standard, pp. 90-231 "Oral" Omitted Work between pp. 70-123.	Patrick's Lessons, pp. 1-90, and Supplementary Work.*	Rand-McNlly's Complete, pp. 1-86. Supplementary Work	Morris's Elementary.	History of Missouri.	Oral.
7th yr.	5th Reader, Completed, and Supplementary Work	No. VI, and Busin's Forms.	Speller, pp. 150-165. with a Review.	Stand'd, pp. 201-282 "Oral". pp. 123-143.	Patrick's Lessons, Completed, and Supplementary Work.*	Complete, pp. 86-168, Supplementary Work	Shinn's Hist. of the Am. People to p. 233.	Civil Gov't. of Missouri	Oral.
8th yr.				Standard, pp. 282-438.	Patrick's Lessons in Grammar.*		Shinn's Complet'd.	Civil Gov't. of U. S.	Baldwin's Essentials.

*See pp. 22 and 23.

B.—BY SUBJECTS.

READING.

FIRST YEAR.

COURSE I:

Complete thoroughly Franklin Primer and First Reader.

NOTE:—Course I. is a minimum. It is suggested for schools having a term of average length, no chart, and no Werner Primer. In addition to completing the work one or two classics can be read with pleasure and profit by the class.

COURSE II:

Miss Striker's Chart for six weeks or two months. Franklin Primer and First Reader completed.

NOTE: For schools having the chart.

COURSE III:

Werner Primer, followed by a rapid reading of Franklin Primer. Complete thoroughly Franklin First Reader.

SECOND YEAR.

Franklin Third Reader completed.

Supplemental work: Any two classics recommended for this grade. See Appendix.

THIRD YEAR.

Franklin Third Reader Completed.

Supplementary work: Any two classics recommended for this grade. See Appendix.

FOURTH YEAR.

Franklin Fourth Reader, Part First (pp. 1-104.)

Supplemental work: Any two classics recommended for this grade. See Appendix.

FIFTH YEAR.

Franklin Fourth Reader, Part Second (pp. 204-328.)

Supplementary work: Any two classics recommended for this grade. See Appendix.

SIXTH YEAR.

Franklin Fifth Reader to page 201.

Supplementary work: Any two classics recommended for this grade. See Appendix.

SEVENTH YEAR.

Franklin Fifth Reader, pp. 201-430.

Supplementary work: Any two classics recommended for this grade. See Appendix.

LITERATURE IN THE LOWER GRADES.

1. Two classics are to be read critically as supplementary reading in each grade.
2. If this plan be acted upon, it will be seen that at the end of the common school course, sixteen classics will have been added to the student's store of knowledge—in the same time the readers are usually completed.
3. Reading is fragmentary; classics are usually complete, giving additional interest.
4. Graded literature insures constant growth and symmetrical development.
5. The sixteen classics contemplated embody the best thoughts of all mankind of the past and present.
6. The geography, history, home-life, religions, superstitions, philosophy, the struggles, hopes, and aspirations of mankind are contained in these classics.
7. The millions of boys and girls on the farm, in the village, factory, mine—everywhere—have a *right* to something better, and more complete, than what they have received in the past. Any country, village or ward school can do this supplementary work laid out in this course.
8. The object of all reading, either regular or supplementary, should be to lead up to literature in its highest forms.
9. Our adopted readers have on an average sixty-three lessons for each grade, leaving ample time

for at least one period each week to be set aside for supplementary reading.

10. The time spent will increase the interest in the regular classes in reading.

SPELLING.

SEVER'S PROGRESSIVE SPELLER.

NOTE: Prof. Sever kindly furnished the graded course and the suggestions following:

Second year, pages 1-30.
Third year, pages 30-60. (Finishing Part I.)
Fourth year, pages 60-90.
Fifth year, pages 90-120.
Sixth year, pages 120-150.
Seventh year, pages 150-165. (With review.)

OBSERVATIONS AND SUGGESTIONS:

1. Spelling is arranged in accordance with certain principles involved.
2. The words are grouped under general rules and in general classes.
3. The law of association is most helpful in spelling. The words are therefore grouped according to their similarity or dissimilarity, agreement or disagreement, association with thoughts they represent, and the forms they have.
4. The law of association requires that the meaning and application of words should be taught with their spelling.

5. The grouping is around subjects, as Geography, Medicine.
6. The words are arranged under rules.
7. The necessity for correct use of words involves the necessity of correct spelling.
8. The word-forms appeal to the eye; correct forms should be presented.
9. Diacritical marks are valuable only when their use is known. They must be used with such frequency as to render familiarity certain.
10. Word-building from root-words is freely introduced as a form of association.
11. The teacher must have enthusiasm for the work.
12. Work should not be all written nor all oral, but should be combined to suit surrounding conditions.
13. The teacher should make word-lists of all incorrectly spelled words in written spelling. These lists should be reviewed in special lessons.

ARITHMETIC.

FIRST YEAR.

Numbers from one to ten. For detailed statement of the work, with suggestions concerning materials and methods for this and following grades, see Methods of Arithmetic in this book.

SECOND YEAR.

1. Study numbers from ten to twenty.

2. Writing of numbers to 999.
3. Roman notation to one hundred.

THIRD YEAR.

FIRST HALF:

1. Reading and writing numbers to 9,999.
2. Multiplication and division to 10's.
3. Study of individual numbers from 20 to 30, (further if time permits.)

SECOND HALF:

1. Milne's Elements to p. 118.
2. Supplementary work as needed.
3. White's Oral Arithmetic to p. 22.

NOTE. White's book is recommended as one in every way worthy to accompany our adopted text in written Arithmetic. It is believed that no pupil should recite "arithmetic" more than once a day. Nevertheless there should be a great deal of oral Arithmetic. White's book represents a minimum accompaniment for a course like Milne's. As to method, it is suggested that White's book be used coordinately with Milne's books as follows:

1. As a preparatory review, before taking up a topic that is not entirely new—as addition (Milne's Elements p. 89), for which some of the exercises in White (pp. 8-11) would be an excellent preparation.
2. As a drill and review in connection with, or following the work in Milne. There may be an occasional "day off" from the written work for an oral drill.
3. As a preparation for the written work, where the topic is a new one. Milne introduces each new topic with a series of inductive exercises. White's book will furnish valuable material supplementary to these. For example: pp. 55-62 (White) should be given in connection with pp. 138-140 (Milne's Elements),and then the pupil will be prepared for the written work

on pp. 141-144 of Milne. It is understood, therefore, that the various topics in the Oral Arithmetic are to be studied in connection with the same topics in Milne's books.

FOURTH YEAR.

1. Milne's Elements, pp. 118-188.
2. White's Oral, pp. 23-27, 35-48, 55-68, 73-98 (omitting any parts or problems that are too difficult for the class.)

FIFTH YEAR.

FIRST HALF:

1. Milne's Elements, pp. 188-231.
2. White's Oral, pp. 103-123.

SECOND HALF:

1. Milne's Standard, pp. 1-90.
2. White's Oral, pp. 28-34, 49-54, 69, and any other omitted parts up to this point.

SIXTH YEAR.

1. Standard Arithmetic, pp. 90-231.
2. White's Oral, omitted work between pp. 70 and 123, with occasional reviews of other parts within same limits.
3. Supplementary oral work, if needed.

SEVENTH YEAR.

1. Standard Arithmetic, pp. 201-282.
2. White's Oral, pp. 123-143.
3. Other supplementary work, if needed.

EIGHTH YEAR.

1. Standard Arithmetic, pp. 282-438.
2. White's Oral, pp. 143-176.

LANGUAGE.

FIRST YEAR.

I. *Nature of the Work.* The language work of this year must, of necessity, be largely oral and incidental, and may be taken up in connection with each of the other lines of primary work. The work should be in the form of conversation lessons upon appropriate topics. These exercises increase the child's power of expression, stimulate mental growth, and establish good habits of speech. Using the good with sympathetic help leads to the omission of the bad. Naturalness of expression should be the aim. To secure this requires an interesting topic, a sympathetic interest on the part of the teacher and guide, and sympathetic criticism when criticism is necessary.

II. *Materials*, drawn from the parallel lines of work, thus securing that natural correlation which should permeate all instruction. The materials come from:

1. The reading lessons, which the child reproduces, or about which he talks, and which he copies as soon as he learns to write.
2. Nature lessons, on trees, plants, flowers, fruits, leaves, insects, domestic animals, rain, snow, ice, etc., in which both observation and expression are encouraged.
3. "Geography" lessons in which he acquires and uses terms relating to place, direction, color and form.
4. Child literature, appropriate stories read or *told*

by the teacher and re-told by the pupil.

5. Memory gems, suitable in sentiment and difficulty to this stage of development.

III. *Aim.* This year's work is intended to secure to the child the following:

1. Meaning and use of many new words.
2. More fluent and accurate use of his present vocabulary.
3. Discriminative use of simple terms likely to be misused; such as I, me, he, him, her, she, we, us, a, an, this, that, these, those, is, are, was, were, see, saw.
4. Connected thought and connected expression of thought in good form—descriptive and narrative.
5. A growing familiarity with the mechanical elements—capitals and marks of punctuation—when copying is begun.
6. Correction of some inaccuracies in pronunciation and use of words.

SECOND YEAR.

This year should include the following lines of work:

1. Description, oral and written, of plants, animals, and manufactured objects present, and from memory, using connected discourse.
2. Correct use of common words likely to be misused impressed by repeated use—governed by needs of pupils.
3. Some attention to the construction, not dissection, of simple sentences.
4. Oral and written reproduction of reading lessons,

stories, etc., especial attention given to narration.

5. Dictation exercises of suitable character.
6. Simple descriptive and narrative compositions.
7. Close attention to the mechanics of composition.
8. Memory gems.
9. Simple letter-writing.

THIRD YEAR.

I. *Text-Book Work*—DeGarmo's Combined Book, Part I.

II. *Supplementary Work:*

1. All the lines of work pursued in second year—each adapted to the increasing intelligence and expanding powers of the pupil.
2. Elaboration of the sentence—using more involved forms.
3. Supplying ellipses.
4. Completing paragraphs and weaving contexts about selected sentences.

FOURTH YEAR.

I. *Text Book*—De Garmo's, Part II.

II. *Supplementary:*

1. Continue the work of the previous year.
2. See Methods in Language for fourth year, in this book.

FIFTH YEAR.

I. *Text Book*—DeGarmo's Part III., or Parts III. and IV. (In a graded school with a high school department in which it is possible to use Patrick's second book, it may be desirable to spend but one year on Parts III.

and IV. The rural schools are denied these high school texts and may with profit spend a full year upon Part III.)

II. *Supplementary Work:*

1. Continuation of such forms from preceding years as are suited to the pupils, and each teacher must determine this matter for his own school.
2. Composition work, completing stories, making up stories, as suggested in Methods for fifth grade—elsewhere in this book—are appropriate here.

SIXTH YEAR.

I. *Text Book*—DeGarmo's, Part IV. and review, or Patrick's Lessons, to page 92. (See fifth year.)

II. *Supplementary work* in composition writing, making abstracts and paraphrases, and such lines of previously suggested work as need further consideration.

SEVENTH YEAR.

I. *Text Book*—Patrick's Lessons to page 92, or (if already studied to this point) complete the book, (reviewing from page 80 at beginning of the year.

II. *Supplementary work* in composition and in grammar.

EIGHTH YEAR.

I. *Text Book*—Patrick's Lessons completed from page 80, (or Patrick's Higher English), with suitable supplementary work in composition and grammar.

GEOGRAPHY.

FIRST YEAR.

1. Observations of land, water, temperature, soil, plants, animals, men, occupations, sun, clouds, winds, etc.
2. Learning of a few of the terms applicable to position, distance, direction, size, form and color.
3. Reading of geographical stories, by teacher.

SECOND YEAR.

1. Continuation of observation lessons of preceding year.
2. Suitable readings, making comparisons with home regions.

THIRD YEAR.

1. Further observations, leading to a clear conception of fundamental geographic ideas, such as hill, stream, etc.
2. Idea of mapping according to scale, together with simple mapping of school-room, school-yard, town or district, county, and state.
3. Supplementary reading, with application to geographic ideas.

FOURTH YEAR.

FIRST HALF:

Rand-McNally's Elementary, text to p. 50.

SECOND HALF:

Same text, pp. 40-78.

Supplementary work for both halves:

1. Weather observations.
2. Study of industries.
3. Modes of transportation.
4. Products of field, garden, mine, forest, factory.
5. Imaginary journeys.
6. Reading.

FIFTH YEAR.

FIRST HALF:

Elementary book, pp. 78-113.

SECOND HALF:

Same book to p. 152.

Supplementary reading throughout.

SIXTH YEAR.

Rand-McNally's Complete Geography to p. 86.

Supplementary reading.

SEVENTH YEAR.

Rand-McNally's Complete Geography, pp. 86-168.

Supplementary reading.

U. S. HISTORY.

SIXTH YEAR.

FIRST HALF:

Morris's Elementary History, parts I., II., and III.

SECOND HALF:

Complete the book.

SEVENTH YEAR.

FIRST HALF:

Shinn's History of the American People, to Part IV., p. 121.

SECOND HALF:

To Part VI., p. 233.

EIGHTH YEAR.

FIRST HALF:

Shinn's History of the American People, Part VI., to p. 317.

SECOND HALF:

Parts VII., and VIII.

CIVIL GOVERNMENT AND HISTORY OF MISSOURI.

Text Book:—Rader and Thummel's Civil Government and History of Missouri.

FIRST PLAN:—

SEVENTH YEAR.

History of Missouri, pp. 147-408.

EIGHTH YEAR.

Civil Government of U. S., and of Missouri, pp. 1-147.

SECOND PLAN:—

SEVENTH YEAR.

Civil Government of U. S., and of Missouri.

EIGHTH YEAR.

History of Missouri.

THIRD PLAN:—

SIXTH YEAR.

History of Missouri.

SEVENTH YEAR.

Civil Government of Missouri.

EIGHTH YEAR.

Civil Government of the United States.

PHYSIOLOGY.

I. Oral lessons, occasionally, throughout the course, beginning in first grade with naming some of the obvious parts of the body, head, hand, foot, eye, ear, etc., and gradually extending to parts less obvious, as heart, lungs, brain, stomach, etc. There should be lessons on food, its use, and how to eat it. Also on the hygiene of teeth, skin, eating, drinking, breathing, circulation, rest, exercise, and sleep. Some of the effects of stimulants and narcotics may be noticed.

II. Baldwin's Essentials, eighth grade, one year's work.

VERTICAL WRITING.

Adopted Books:—Natural System of Vertical Writing.

First Year, Book I.

Second Year, Book II.
Third Year, Book III.
Fourth Year, Book IV.
Fifth Year, Book, V.
Sixth Year, Book VI.
Seventh Year, Book VI., and Business Forms.

CHAPTER II.

DAILY PROGRAM FOR DISTRICT SCHOOLS.

ADVANTAGES OF SYSTEM.

Life without a program is aimless. Great enterprises cannot be successfully conducted without a fixed program. The time-table of a railroad is its program. All trains arrive and depart on time, and every passenger soon finds that he, too, must be on time, if he wishes to catch the train. A certain distance must be covered within a definite period, and if a train gets behind time, it must so remain, or endanger the lives of its passengers by running at a speed that is considered unsafe,—for it is manifest that the company, in arranging its schedule, adopted the fastest time consistent with safety. This unvarying program promotes promptness. The employes arrive upon time to take charge of their various duties. The section men know when the train will arrive, and loosen no spikes, and remove no rails till it has passed; then in safety they time their labor to the on-coming of the next train.

A Program Brings Success.

The traveling public examine the program and promptly present themselves at the station in ample time,

for they have found by past experience that it will be carried out to the minute, whether they are ready or not. The thousands of employes time their actions to the program, and the hundreds of thousands of patrons accept its decree as final, and never call in question its fulfillment. One moment's reflection will show the far-reaching effects of its abandonment. Think of waiting for a train, somewhere up the track, the arrival of which is only conjectural. It sometimes gets in on time; sometimes, behind time; sometimes, ahead of time. It sometimes runs slow; sometimes, fast,—sometimes at a dangerous speed. The many are inconvenienced, tortured and damaged, simply because there is no fixed program. A great railway system has much to do in a limited time. Each employe must do his part within the prescribed limit. In no other way could it be called a "system." Without this uniformity, it would be declared inadequate, and wholly unsuited to the purposes of its existence.

The business man who has system in the management of his affairs is almost always successful. He is prompt in opening his office, or building, in waiting upon his customers, in his collections, and in meeting his obligations. His promptness begets promptness in all who have dealings with him.

The farmer who has a time for everything will soon have all persons who are in any way connected with his business adjusting their actions to his program. System, increased work, and larger profits, are the necessary results of his program.

The laws of health, from a physiological standpoint,

require that a daily program should be kept, and strictly followed. Rising at a regular time, eating systematically, exercising regularly, bathing regularly, sleeping regularly give health, strength and buoyancy of spirit and mind.

Timing one's action to the work in hand is following a program, no matter in what avenue of life. Persons who do this are systematic, and no one is systematic who does not do so. Why in all successful enterprises, is a program adopted by persons having charge of them? The answer comes, "It pays." If this is the correct answer, then there is no place where it will pay so well as in a school.

In any school the true teacher never does all he sees that needs to be done. His field of activity is limitless. He has six short hours each day in which to supervise, personally, his school. He is to promote the greatest development possible in each pupil. His success is not measured by the soul-expansion of one, of five, but of *all.* The close of the day must witness a mental development of *all.* His success is measured by the difference of intellectual and moral power of his pupils at 9 a. m. and 4 p. m. He sees so much to be done that he would become discouraged, were he not a hero for humanity. He sees the situation, and heroically does all he can, in the most effective way at his command. He realizes that he cannot do so much alone as when assisted by his pupils. Accordingly, he assigns work for the students to do in a given time, the amount being what they can be reasonably expected to do in the time. Pupils of similar attainments and similar capabilities are put to work upon labor of like

A Program Aids Teacher and Pupil.

kind and amount. The teacher is the sympathetic fore man, who lays out the work, and sees that all hands are busy. He sees that he can accomplish more work by planning, laying out work, and seeing that every one under his direction does his duty, than to try to do the work and let his assistants sit idly by. At stated intervals, the time when a given piece of work is supposed to have been accomplished, the foreman examines to see if it has been fully done by each in a workmanlike manner. If he finds that some can not do their work, he shows them how, and makes their failure the ground of their future success in similar cases. When the pupil has completed the work assigned, he has a right to have his next work assigned, and to begin upon it. A program would of necessity be a good one, which would give just enough time between the recitation periods to prepare the lessons. The recitation period should be just long enough to allow the teacher to test the pupil's knowledge of the subject, to explain any work that can not be done by the class, or can not be done without a waste of time; to give such outside information as bears directly upon the lesson; to enrich, to expand, or to intensify it, and to point the way in the following lesson, when the pupils need direction. Such a program presupposes that the teacher has enough judgment to know what a certain class can do in a given time, in a given subject.

If classes are overburdened, they cannot be prepared, when their time to recite arrives. Their knowledge of the lesson will be meager, and their recitation slow and spiritless upon the part they happen to know, and a much

longer time will be required for the imperfect recitation, thus encroaching upon the recitation period of the next class, with a corresponding shortening of the study period for the class that has just recited. Getting behind time causes rushes, hurry, confusion, and a dangerous recklessness as in the case of the belated train. The program for the whole day is behind time, the equilibrium of the school is destroyed; system, so far as that day is concerned, is absent. On the other hand, just enough time is used for the study period, and everything moves systematically according to the time-table. Industry and great work mark the session. The term is made up of days; successful days continued make successful schools.

A Program Leads to System.

Enthusiastic teachers frequently consume too much time in the recitation. In their enthusiasm, they forget the work that is before them, and, to that extent, fall short of being good teachers. No teacher ever heard a slow recitation when the lessons were thoroughly prepared; no teacher ever heard a quick recitation where lessons were poorly prepared. Being on time acts upon students as the railway time-table does upon the employes, causing them to be ready and to do the work prescribed in the alloted time. The knowledge that the teacher will not "run over-time" promotes regularity, industry, and desirable habits of study and action in the pupil. A program also presupposes that a teacher knows the object of the recitation. Such a teacher will at once, when the class is in position, test the knowledge of the class—

A Program Leads to Thoroughness.

A Program Leads to Correct Habits of Study.

not deliver a lecture to show how much he knows about the lesson. The recitation is for the pupil, not for the teacher. The teacher should not lead the pupil to his answer. The pupil, in the best way under the circumstances, should be permitted to recite freely and fully, or represent to the teacher what he has assimilated and made a part of himself. When the various members have given sufficient evidence that they have mastered the lesson and have assimilated it, the teacher should then correct any erroneous ideas the class may have, and make clear any facts that are left obscure, and give any suitable relative matter to emphasize the points brought out, or to supplement, or to enrich the contents. When this is done, the next work should be assigned with any necessary suggestions in regard to its preparation, or special work to be done in connection with it. Incidents remotely connected with the lesson are out of order, as a rule, and indicate a lack of preparation of the lessons upon the part of the teacher. When these details have been completed, the recitation is finished, and should cease.

As suggested in another chapter, it is, occasionally, necessary to vary the program for a single day. There may be some subject requiring additional time for explanation, or elaboration. Upon such occasions the extra time should be taken, but the rule should be, "Follow your program," breaking it should be very rare. Subjects like the Greatest Common Divisor, Longitude and Time, etc., cannot be explained in the time ordinarily given to the recitation. In such cases we would have to run over time. These cases should

The Program Rarely Varied.

be the exceptions, just as a train is compelled, occasionally, to be behind time. Even in the cases cited above, it is better, when it can be divided, to give only so much of the subject as can be completed in one recitation. The one thing to be borne constantly in mind by the teacher is the day's work as a whole, and work in such a way as to make the success of the day most complete, rather than the single recitation. As before mentioned, successful days are the units by which successful terms or years are measured.

It should be kept in mind that a program suitable to all the peculiar conditions of the school is necessary. The teacher in charge is the person to decide this point. Almost every district would require a program slightly different from the one adjoining.

Even in the same school, the program would vary slightly from year to year. The teacher, the first few days of school, should adjust his program to the school, not his school to his program. When this program is adjusted to the peculiar needs of the district, there is no reason why it should not, but every pedagogical reason why it should be followed. Some of the benefits to a teacher personally are:

The Program Should be Adjusted to the School.

1. System in his school work, in his professional studies, and in his other activities for personal and professional advancement.

2. Increase of power as a teacher, arising from necessary preparation for each recitation. The familiarity with the contents of the texts, and with suitable supplementary matter, gives power that can not be supplied

by an acquaintance with other texts. The true teacher, by skillfully directing the pupils, enables them to take from the lessons their meaning, and creates in them the consciousness of power. Text books are their guides, and contain the information to be gleaned by them. Supplementary work is necessary, but it should not take the place of the text. Limited time for recitation demands extended preparation. Extended preparation brings professional power.

What a Program does for a Teacher.

From the student's standpoint, some of the benefits to be derived are:

1. He receives justice. There is no justice in giving to one class time that rightly belongs to another. Usually, in such cases, the time is taken from the many for the few who are in the upper grades. "The greatest good to the greatest number," should be the watchword of every earnest teacher. With eighty-two per cent of pupils in the first four grades, justice requires that those above this point should not be permitted to have time that belongs to those below it, simply because the teacher does not happen to like the lower grade work, and wants to take a review in higher subjects. The best teachers are those who are successful in the lower, as well as, in the upper grades.

What a Program does for the Pupils.

2. The students become accustomed to system, and use it in whatever they do. The habit of doing all things with system is soon formed, and is, in itself, invaluable.

3. Self-control is strengthened. Students learn to give up individual preferences for the opinions of others.

4. They receive a greater return from the schools.

They study more, assimilate more, learn self-reliance and to do a definite work in a given time. In many ways they are made stronger by adjusting their actions to the program.

PROGRAM FOR DISTRICT SCHOOL.

Time.		First Group, First Grade.	Second Group, Second Grade.	Third Group, Third Grade.	Fourth Group, Fourth and Fifth Grades or both Combined.	Fifth Group, Sixth & Seventh Grades or both Combined.	Sixth Group, Eighth Grade.
9:00- 9:10	10	OPENING EXERCISES.					
9:10- 9:20	10	Numbers					
9:20- 9:30	10			Arithmetic			
9:30- 9:45	15				Arithmetic		
9:45 10:05	20					Arithmetic	
10:05-10:30	25						Arithmetic
10:30-10:40	10	RECESS.					
10:40-10:50	10					His. or Civ.	
10:50-11:00	10	Reading				Gov. of Mo.	
11:00-11:10	10		Reading				
11:10-11:20	10			Geography			
11:20-11:30	10				Elm. Geog.		Civ. Gov. or Shi'n's
11:30 11:45	15						Civ. Gov. or Shi'n's
11:45-12:00	15					Com. Geog.	U. S. His.
		NOON.					
1:00- 1:05	05	OPENING EXERCISES.					
1:05- 1:15	10	Reading					
1:15- 1:25	10		Reading				
1:25- 1:35	10			Reading			
1:35- 1:45	10				Reading		
1:45- 1:55	10					Reading	
1:55- 2:10	15						Physiology
2:10- 2:30	20	Writing		Writing		Writ	ing
2:30- 2:40	10	RECESS.					
2:40- 2:45	05	Lang'age					
2:45- 2:50	05		Lang'age				
2:50- 3:00	10			Lang'age			
3:00- 3:15	15				Lang'age		
3:15- 3:30	15					Patrick's Grammr	
3:30- 3:45	15						Pat. Gr'm'r
3:45- 4:00	15	Spelling		Spelling		Spell	ing

COMMENTS UPON THE DISTRICT PROGRAM.

The program above provides for the teaching of all common school books adopted by the Missouri Text Book Commission. Should a school not use all the books, it will be an easy matter to divide the time among other subjects, leaving the program practically as suggested. All schools should be worked up till they can give this common school course provided by our laws. No teacher, however, should attempt to adjust the entire program to his school unless the conditions will warrant the adjustment. His judgment must be his guide in deciding what are these conditions. The Commission thought the adopted books were suitable for the pupils of the grades mentioned. A full examination, and one year's use has verified this conclusion. An inspection of this program shows that it will bring system and save time, and grade the school sufficiently close; yet, not so rigidly as to put children into an educational straight-jacket, by crowding into the same classes children of widely different powers and advancement. The object of classification is to facilitate work by grouping together pupils of similar attainments and advancement, thus, making one recitation serve all equally.

The Program for Adopted Books.

This Program Grades a School.

The program provides for eight years of school, divided into six groups. It is seen that the students in the first three readers form distinct grades, while the pupils of the fourth and fifth grades are united in the Fourth Reader and accompanying subjects; the sixth and seventh grades are also united in the Fifth Reader and other corresponding

work. The eighth has advanced to such an extent that separate classes are required. This seems a proper amount, and a rational division of labor, for pupils at their various stages of development. The consensus of the best educational thought confirms this opinion. To grade a school successfully, the teacher in charge *must* know what is the work embraced in each grade, and the pupils, also, *should* know it.

The program should be placed artistically upon the board, or printed upon manilla card-board, and placed upon the wall where it can be seen. A clock should be provided. Then the student soon adjusts his study to the time allowed. He also sees in what year of his school course he is, and in what branches, if any, he is behind. He is encouraged to strive to "even up" his work, and also to endeavor to complete his grade during the term. It is not recommended that a student be held in a grade, simply because he is behind in one or two branches. He should be encouraged to keep his work symmetric, and should learn to know when his advancement is harmonious. The student at one glance sees what is the work of the hour, of the day, of the term, of his school life, in the common school.

It will be observed that twenty-six recitations have been provided for. The number has been made large in order to meet the necessities of any school. Should there not be so many required it is easier to form fewer classes than to find time for more. The authors are aware that programs suggested by institute instructors, courses of study, and works upon

Meets the Requirements of any School.

school management rarely ever contain more than twenty-two recitations. After consulting a large number of strong district teachers in various parts of the state, they are forced to say that the great majority contain more than this number. Whenever classes can be united to good advantage it should be done. The teacher is the only person competent to decide what ones should be combined. When this is done, the time gained can easily be given to other classes most advantageously.

The Day's Work Grouped.

The day's work may be said to be divided into four important groups: 1. Arithmetic before recess. 2. History and Geography from recess till noon. 3. Reading from noon till recess in the afternoon. 4. Language and Grammar from afternoon recess till the closing of the day's session. The exceptions to this classification are Writing, Spelling, and Primary Reading. By grouping together the various classes in the same subject, a longer time is given to the concentration of the minds of the whole school upon that particular subject. The time element can no more be eliminated from mental than from material growth. During these periods, if a student is not studying his own lesson, he hears another recite on the same subject. This continued concentration produces healthy growth. If classes on other subjects were introduced, this continuity would be destroyed, and the attention diverted.

It will be observed that at least an hour is given to the preparation of almost every lesson before recitation. There can be no reasonable excuse for a pupil's not having his lesson ready. In addition to the time given by the

program, the first and second grade pupils should study at least thirty minutes, and all others, not less than one hour at home. As an evidence that this has been done, a certain amount ofwork should be required to be handed in. Home study is worth one-third of the whole day at school. The teacher who does not have it done is losing, to a large extent, the support of the parents. When they work at home the parents almost of necessity know of the character of the work being done at school, and feel an interest in all the work the child does. They render material aid to the pupil on the individual plan. The dull pupil has good lessons, and the bright one has time for investigation and research. The whole community come to the conclusion that "That teacher knows his business. The children bring their books home and study every night."

The Time Given to Preparation.

The foregoing program can with slight modifications, be adjusted to any Missouri school. It may not possess all the merits, but is believed to be worthy of the consideration of experienced teachers, and to serve as a temporary guide to the inexperienced. It embodies the recommendations of the Committee on Course of Study for Missouri Schools for 1896, the suggestions of a large number of district teachers, and the experience of the authors, modified to meet the requirements of the adopted text books.

CHAPTER III.

SOME POINTS ON SCHOOL MANAGEMENT.

EDUCATION AND EDUCATIONAL AGENCIES.

The Cost of Education.

The people of the United States expend annually in support of their schools something like a hundred million dollars. The sum permanently invested in buildings, grounds, and equipments, is several times as large. All of this money, together with the vast sum given incidentally to our schools, is expended for what? A single word answers, *Education.* And regarded as an investment merely—forgetting the humanitarian significance of the movement—it *pays*. For, whatever the shortcomings of educators and the deficiencies of our educational system, the millions invested in education are more productive of good than those other millions expended for coast defense or armed cruisers, and much more so than the billion and a half dollars wasted annually in tobacco and liquor. Our own state sets apart nearly seven millions from her yearly income for the education of her children, and whether the burdens of taxation rest lightly or heavily upon our citizens, the moneys paid for school purposes rarely provoke complaint.

These facts are construed as an indication that education is in some measure, at least, accomplishing an acceptable purpose. But what is that purpose? Is it to fit the coming man or woman to "fight the battle of life"? If this means fitting him to enter the race for "the almighty dollar," by concentrating all his purposes and all his strength upon this one end, narrowing his mental and spiritual horizon within the circumference of a silver circle, one and one half inches in diameter, the answer is a decided negative. But if the question means the getting of a living by productive labor, the answer is "Yes and much more." Education ought not to unfit one for earning an honest living, either by making him impractical and unable to deal intelligently with the problems of life or by giving him distorted conceptions of his own dignity or that of profitable labor. It is a low conception of education, however, that looks only to the material side. Every normally constituted human being ought to be capable of earning an honest living, but he should be able to do more. He should be able to live rightly—to live as becomes a being endowed with the possibilities of good and evil, a being who stands at the apex of creation with the whole universe at his feet. "Not for livelihood but for life" is the expressive formula of education as enunciated by one of her ablest exponents. "Complete living," says Spencer, "is the purpose of education." Such ideals as these are worthy of, and demand the consideration of every true teacher.

The Purpose of Education.

No scheme of education can ignore the individuality

of the pupil himself, an ever-present factor which may facilitate or neutralize the normal efficiency of the great educational forces, Home, School, Church, Society, and the Press. The influence that these agencies wield varies as the individuals vary. It cannot be foretold with certainty. In the main, we have reason to expect certain results, but frequently our expectations are upset by genuine suprises. The individuality of the learner sometimes asserts itself in peculiar, yet emphatic ways. The same sun melts wax and hardens clay.

Educational Agencies.

It is not within our province to attempt a statement of the relative importance of the various agencies named above. We are directly and immediately concerned with the work of the School. Its educational influence operates in a variety of ways, some direct, others indirect. Indirectly a school can educate by its very presence in a community. A university on a Stanford estate, a modern ward school in a crowded city, or an "up-to-date" school in a rural community can educate their respective neighborhoods. There may be "ignorance in the shadow of Harvard," but there would be more ignorance were there no Harvard. A school educates many whose names are not on its rolls. It may be able to imbue not only its pupils but an entire community with a healthy educational spirit. It is positively invigorating to inhale the educational atmosphere of some schools and some communities, and as killing to breathe that of others. Pupils, teachers, patrons, visitors are alike stimulated. Sometimes this influence, whether good

The School as an Agency.

or evil, emanates primarily from some citizen, who may or may not be a member of the board, but generally it depends, if it be a good influence, for its inception, at least, upon the teacher. And this brings us to the consideration of the principal factor in the success of every school.

This influence of the teacher in moulding educational sentiment in the school and for the school is of the first importance and should be regarded by the teacher as a legitimate responsibility. The needs and conditions of the community and the capabilities of the teacher must determine what shall be done, but the resourceful teacher will do something to arouse such a sentiment. It may be the organization of a reading circle among the young people of the community, or among the older pupils, or of a literary or dramatic club under proper restrictions. It may be through the school library, through interesting general exercises in the school, or through other ways that the tactful teacher will devise. The fact remains that in many, very many communities, both rural and urban, this sentiment is almost entirely lacking. It is to be hoped that every such community will soon produce or import a leader with the grace and grit to save it from itself.

Educational Sentiment.

The teacher ought to be the educational leader of the community, whether that community be as populous as a Greater New York or no more so than the most sparsely settled rural district. He should rank in educational matters as high as the physician, lawyer, and minister do in their spheres. In minor cases we may see fit to dispense with the services of all, but in the serious

ones we go to those who profess to know. We seek out the specialist. The teacher should be a specialist in his sphere. He should be oen whose advice upon the difficulty of locating a school site, the construction of a school building, the purchase of school supplies, the ventilation of a room, the selection of a good book, the care of an injured child, the avenue to a boy's affections, the choice of an occupation, or any one of a score of similar matters, would be safe and valuable. When a community finds such a leader, it will be loth to let him go. Sometimes ignorance or prejudice may try to drive him out, but rarely will it succeed. Such qualities as those enumerated above, together with those directly related to the work of instruction, will call for a remuneration of more than twenty-five dollars a month, for six or seven months of the year. But is it a manifestation of over-confidence to say that such teachers will not long be kept at such wages? Is there not sufficient liberality, aye, is there not sufficient business-sense, among Missouri's tax-payers to lead to a fair reward for such services? It is pleasant to dream of a time when in many a Missouri community there may be found a man or woman who will long have been recognized as the educational leader and guide—loved and respected by all, amply qualified in all that pertains to the work of education and amply remunerated to banish all fears of want immediate or remote. And must it be forever only a dream?

The Teacher as an Educational Leader.

Much has been written upon the qualifications of the teacher, and legislators, actuated by a desire to protect helpless childhood, have legalized attempts to ascertain

whether would-be teachers possess a certain standard of qualifications. The perennial discussions of "the certification of teachers" at educational meetings, state and national, and the biennial efforts of our own General Assembly to amend existing laws, show that the law makers have not arrived at an entirely satisfactory method of determining even a minimum of qualifications. Furthermore it is everywhere conceded that no test save that of actual experience is altogether satisfactory. There are some very desirable qualities which no examination can reveal, some elements of a teacher's equipment that must be sought through other means. Here lies one of the strong arguments for the supervision of schools.

Legal Qualifications.

With much ingenuity and nicety of detail the "Qualifications of the Teacher" have been outlined by a number of writers. We purpose neither rivalry nor plagiarism. Yet we do desire to set forth a few of the teacher's qualifications—partly to emphasize, partly to supplement.

The first qualification that is usually demanded by examiners, patrons, and school officials is scholarship. It is extremely doubtful whether the prevalent notions corresponding to this term are at all times clearly defined and at all times correct. But suffice it to say that the term ought to stand for much more than it now does—far more than our current system of examinations can possibly reveal. It is unquestionably true that the standard ought to be much higher than it now is. Less than a year ago two would-be "first-grade" teachers were unable to state in an institute

Scholarship.

the name of the ruling sovereign of Great Britain, a dozen more could not tell the temperature at which water freezes, and thirty-three out of a total of eighty-two failed to name three American poets and three poems of each. It is possible that a person may be an excellent teacher and lack a knowledge of these things, but the probability is that these deficiencies are matched by others equally glaring. It is not assumed that the teacher's knowledge should be encyclopedic, but to the question, are the persons just mentioned qualified to teach Missouri's boys and girls? There is but one answer—an emphatic, *No*. A radical and sudden change of standards is, of course, inadvisable, but one sufficiently marked to be noticeable is necessary. The interests of our schools demand it, and surely the time is not far removed when public sentiment will join in the demand. "A four years' high school course for all grade teachers" may startle us now, but the time is coming when this will be demanded, and those who are progressive will begin to prepare for it now. With so many good high schools, academies, colleges, state normals, and universities accessible, there are but few who will to do so who can not equip themselves with a broad general culture. Reform ought to come in three places—among teachers themselves in a professional spirit that will compel higher scholarship; among licensing officers in a determined effort to supply existing deficiencies; among patrons and the general public in a demand that their school rooms be barred against incompetency.

A second qualification is a clear conception of the

objects and nature of education. It is feared that too many teachers go about their work with very indefinite notions of what can and ought to be accomplished in the school-room. Oh Education! Education! How many crimes are committed in thy name! Sometimes, well-meaning and conscientious teachers lack this right conception of their work. Too frequently, however, the important work of teaching is carried on by those who are supremely indifferent to all the higher ideals of their *trade* and whose definition of education, if truthfully written, would be, "The popular institution which seems perfectly willing to employ me at a good salary with the privilege of doing just as little as possible in return." Is it not time that teachers were asking, What is Education? What is it for? How is it to be accomplished? Am I fit for the work? What is my duty to my pupils?

Right Conception of Education.

Closely associated with the foregoing, is a third qualification, love for the work. Novice, if you do not love children and cannot interest yourself in them, keep out of the profession. Teacher, do you dislike your work, do you "hate the whole business," do you find the work a task, are you teaching "for revenue only"? If so, resign at once. Get out of the profession. "The place whereon thou standest is holy ground." The true teacher so loves his work that there is a constant temptation to overstep the limits of time, a constant desire to do more than has yet been done, a constant striving after better things in matter and method, a constant longing for the strength and wisdom necessary

Love for the Work.

to faithful work. If these things be in him and abound he will be neither barren nor unfruitful.

There should be not only a love *for* the work, but also a love for *work*. He who has an insuperable aversion to all kinds of hard labor will never satisfy us as a teacher. The lazy teacher—God pity his pupils. Very few people—and children are not exceptions—have respect for a lazy person. On the other hand, we innately respect him who can work and is willing to work. The lazy teacher "is too lazy to do anything else;" he is too lazy to get to school ahead of time; too lazy to take an occasional romp with the children; too lazy to be on his feet frequently; too lazy to sacrifice his own personal ease to help a slow or unfortunate pupil; too lazy to plan and prepare his work; too lazy to teach except "by the book;" too lazy to draw his salary—never.

Good Habits.

The teacher should be pre-eminently a person of "good habits," including in that phrase much more than the popular interpretation demands. Our ideal of the teacher is a high one—but better to err with virtue than to shine with the lack of it. High ideals rarely discourage; low ones frequently destroy. Therefore, beyond the commonplace virtues of truthfulness, honesty, temperance, and purity, we demand of our teacher such other habitual virtues as promptness, perseverance, neatness, politeness, modesty, patience, order, and self-control. These habits should not be of the spasmodic type. They should constitute the warp and woof of his being.

Other elements in the teacher's equipment might be

named, but their enumeration would be foreign to our purpose. We pass to the consideration of the teacher's work.

The teacher's part in arousing and maintaining a healthy educational sentiment in the community has been considered. The more commonly recognized lines of his activity are instruction and discipline. Both require a high order of ability and both are not necessarily within the power of every teacher. Of course, everybody can instruct—after a fashion, as he can govern—after a fashion. But the ideal instructor and the ideal disciplinarian combined in one person live mostly in theory. The former is he who can guide successfully to self-instruction; the latter, he who can guide successfully to self control. It is a faulty conception that regards instruction as a mere in-pouring of facts. It is rather, as its etymology suggests, an *in-building;* but it should be that sort of in-building that goes on within a tree, or an animal body, in which the crude material is built into living tissue and becomes a vital part of a living organism. The teacher should strive to make his instruction equally vital. Facts, so far as their impartation is a factor in instruction, ought to be the crude food-elements which, by such mental processes as the teacher shall direct, are to be assimilated and incorporated into the mental organism. The result of such an acquisition will be a symmetrical development, a growth of all the powers of mind.

The Teacher's Work.

Discipline ought to do for the emotional and volitional natures what instruction, as outlined above, does for the intellectual nature of the child. Precepts, rules, maxims,

should be acted, *lived*, by the child, from motives of his own and from choices of his own. Herbart is undoubtedly correct in assuming that, in education, the most important element—the whole of it, he would say—is morality. Judged from this standard what a woeful affair we make of education! How little we are doing, or, at least, how little we are doing well, toward the development of a self-directing morality, which is the only true morality. Let us hear the conclusion of the whole matter. That teacher fails in his duty, who has not trained his pupil to self-instruction and self-government.

THE FIRST DAY OF SCHOOL.

The novice in teaching, unless he be of those who rush in where "angels fear to tread," looks forward with trepidation of spirit to "the first day of school." And well he may, for in many respects it is the most important of the term. In the hope that something may be said to help the teacher over the difficulties of this, the hardest of all days, this section is written. Primarily it and the one following are written with the rural teacher in mind, but it is hoped that these sections are worthy of the attention of all teachers.

The first day's labors, like those of any other day, can be lightened by preliminary preparation and foresight. No day's labors, much less those of the first, should be begun without a plan. This should include a clear conception of what is to be done and how it is hoped to do it. Both of these points can be determined only after the teacher has studied the condi-

Preparation for Battle.

tions under which he will have to labor—size of school, previous classification, educational sentiment of community, educational needs of community, social and financial conditions of community, school equipment—building, grounds, apparatus, furniture—and, in the light of these conditions, has estimated the educational possibilities of the community. To determine these matters satisfactorily will require a study of the records left by the former teacher, and, if possible, a conference with him, a friendly talk with the board, and, if necessary, with some of the patrons and pupils, and a visit to the school building. A teacher well known to the writers went to her school-room on the morning of the first day, and found the seats loose from the floor and piled in one end of the room. Such a state of affairs will never lighten the first day's labors. The school-room should be clean, and the teacher may have to see to the cleaning. A school record, a bell, crayon, and drinking vessels should be at hand.

Before or during the first day, each teacher must solve the question of classification so far, at least, as it concerns his school. In this matter there is much room for diversity of judgment and for serious error.

Classification.

There are two extremes—the one, the individual, "go-as-you-please" plan, once almost universally prevalent in rural schools; the other, the "iron-clad" gradation of many city schools. Most rural and village schools have grown out of the former, and happily, they cannot attain the latter. How much classification is best has not been fully determined. On a few points, however, there seems to be agreement. It is conceded, for

example, that there is both economy of time and a positive gain in recitation benefits in a certain degree of classification. On the other hand, there is a harmful loss in throwing together in the recitation pupils of widely different powers. The ideal would be classes of moderate size with frequent promotions, the intervals not exceeding three months. This is fully possible only in large city schools, and but few of them have seen fit to try the plan in its fullness. In rural schools, there can be not even an approach to it until we abandon our present school unit—the district. When this extravagantly expensive and pedagogically unwise plan shall have been abolished, we can hope for that degree of classification that will be productive of great good. The Committee of Twelve pointed out that eighty-two per cent of all public school pupils are in the first four years' work, and the suggestion of this Committee is the consolidation of the pupils above this grade into Central Schools. If the six or seven schools found in many congressional townships in our State were controlled by a common board, four of them could easily care for all pupils in the first four years, a fifth centrally located could, with two teachers, provide better instruction and at least one year more of it than our present system can possibly furnish. It is doubtful whether in many townships, there would be any increase of cost whatever. And if there were a slight increase of cost, the character of the instruction would be so much improved that the increase of taxation would be willingly borne.

But many years may pass before we secure this readjustment of our school affairs. Until the change shall

come, teachers must labor as best they can under existing conditions. And what is the teacher to do? First, we reply, there must be a recognition—a fuller recognition than most teachers now seem to have—of the importance of educational symmetry. Under the mistaken idea that all of life is wrapped up within some one "practical" study, pupils are allowed, aye, even encouraged by both teachers and parents to "specialize" on that particular subject. Generally, though not always, that subject is Arithmetic. In any case, the teacher should realize and endeavor to get pupil and parent to realize that the student who has "ciphered through the Arithmetic" without any knowledge of Geography or the ability to write correctly an English sentence is educationally "unbalanced." This does not mean that on the very day on which the pupil is "ciphering" on page 147 of Blank's Arithmetic he must be parsing the sentences on page 351 of Dash's Grammar. But it does mean that there is a more or less clearly prescribed amount of work in the study of his mother-tongue that ought to accompany equally clearly prescribed amounts of work in other lines, and the pupil ought to advance along these several lines proportionately. Harm will come, of course, if this system be made too rigid, but in nearly every rural school there are pupils whose work in Mathematics is from one to five years ahead of their work in Language, and they need "righting up." The aim of the course of study published elsewhere in this book is to set forth what is thought to be equivalent sections of work. It should be used frequently as a sort of spirit-level to test the levelness of the pupil's educational

structure. Recognizing that the school course extends over some eight years and includes five or more general types of work with some "extras;" then, a strict gradation would call for more than forty recitations each day, a number entirely too great for the length of the school day. This number must, therefore, be reduced. The reduction begins with such subjects as penmanship for which the skillful teacher needs but one time period, even though there are different grades represented. In no subject will it be necessary to maintain the theoretical eight classes. The exact number to be maintained in each subject must be determined by the condition of the school. In the suggestive daily program which is given elsewhere, the aim is to show how the condensations may be effected. In the light of the best information at his disposal the teacher prepares a program for the first day. He may be able to approximate closely to what will be his permanent program; the nearer, the better. At the same time, unless there is good reason for it, he should introduce no startling innovations. At no time should he purposely cast reflections upon the work or methods of his predecessor. Where innovations are introduced they should be explained, so that all can comprehend.

The work of the first day should begin on time. Pupils will seat themselves, and, except for manifest reasons, this seating ought not to be changed for the present. If possible, and it is nearly always so, a familiar song may be sung. Its influence will last through that day and many subsequent days. The teacher will show his skill by getting everybody to work at once. This can be ac-

complished by assigning preliminary lessons to all the reading classes. Chart pupils may be given a "picture book" for entertainment and possibly to cultivate friendly relations toward the teacher. Those beyond the fifth reader will probably study History and may have a lesson assigned them. The others, if there be others, may be assigned work in some other branches. Everybody is now employed. The teacher, as rapidly as possible, makes the rounds of the room, confers with each pupil, inquires kindly concerning his studies and gets his name on a previously prepared slip. The inquiries made will reveal much concerning the classes needed and the places of beginning work. The teacher can now write upon the board the assignments of lessons for classes in Arithmetic and Geography. (The most of this should be review work.) The reading classes may now be called in order, beginning with the primary. The recitations should be brief, but each pupil should participate. At the close, assign work for the next recitation and state when it will be expected. In this way go through the program of the day. "Push things." Keep everybody busy. Organize every needed class if possible. Have every exercise brief but significant. Watch the classification and the work to determine the needs of individuals and of classes. Introduce tactics as needed—as classes are called and dismissed and in dismissing and calling school. Let everything be done decently and in order. At the close of the day's work announcements should be made concerning the next day's work, time of beginning school and the like. A few simple rules may be announced, if the teacher thinks best.

Some teachers, apparently, can dispense with all rules. Many others have failed in the attempt. If rules are adopted, they should be general, few, simple, and justifiable even to a child. They should be presented as the needs of the school and not the arbitrary fiats of the teacher. School government, whether by rule or without rule, should instill self-respect and encourage self-control.

It is not likely that there will have been any serious breaches of propriety during the day. Should there be, they must be dealt with on their merits. Should a disposition to "whisper" manifest itself, the teacher will politely ask that the act be not repeated, because of its disturbing others. Should it be repeated, the offender should be reminded of the former request. Very rarely will it be difficult to get through the day without trouble. At the close, or earlier if the teacher thinks it best, his policy in regard to the matter, may be announced. In some way, however, every school ought to recognize the fact that whispering is an evil and forbid it.

When all the business of the day is over, sing a rousing song, and dismiss in order. Before returning on the morrow, the teacher should review the first day's work thoughtfully, profit by all its experiences, and plan his work for the second day.

ANOTHER DAY AT SCHOOL.

Important as is the "first day," the whole term can not be judged by it. Neither can it be taken as a pattern by which all other days are to be cut. There are certain phases of school work that do not develop until after the

permanent organization is effected. Were we to look in upon a dozen "good" schools we should find that each has its individuality—no two are exactly alike. It is understood, therefore, that a school may be successful and not be modeled after a successful neighbor. Neither do we claim that to be pronounced "good" must it be patterned after the one herein described. We aim in these following paragraphs merely to picture a school that was counted successful, and, according to our view, one that merited that judgment.

In this school the teacher was at his post of duty a full half-hour before nine o'clock. He saw that the room was properly warmed. He placed any needed work upon the board. He was there to speak a pleasant good morning to the pupils as they entered. Early Arrival. His mere presence served to exercise a wholesome influence over the assembling pupils. There was no shouting, no scuffling, or running over desks. There was animated conversation, however, in which teacher and pupils joined, and in which the courtesies of life were duly observed. Five minutes before nine the bell was rung, pupils who were indoors passed quietly to their seats; those upon the play-ground formed in lines before the door and on signal marched into the school-room. The building being a modern one, has a cloak-room, through which the lines passed and in which the wraps were left, each in its appointed place. Had there been no suitable cloak-room, the wraps might have been gathered by monitors on the inside. At nine o'clock the teacher's bell proclaimed that school had begun. The few absentees, some of whom came

in later, were quickly noted without a formal roll-call. As a rule, however, there was little tardiness and absence, both of which are inimical to successful work. No school can be counted successful in which there is much of either.

Tardiness and Absence.

From the first day the teacher of this school had striven to create a sentiment in favor of regularity and punctuality. By beginning in the long, pleasant days of autumn, it was easy to set the sentiment going with such an impetus that even the short days were not able to overcome it. There was no scolding, but by appealing to the nobler feelings of childhood, and above all, by making the work so interesting that every day and especially the beginning of everyday was counted a thing too valuable to lose, the main point was gained. Wide-awake, enthusiastic pupils were set to work upon the laggards. Parents were visited. All these and many other things were done, and can be done again by every teacher, toward breaking up that lamentable irregularity and lack of punctuality so prevalent in many schools. There are worse things than tardiness and absence, it is true, but few schools have to contend with them. The teacher who succeeds by rational methods in overcoming these twin evils, will find that many others will disappear in their train. It is possible to use silly or barbarous methods to overcome them. Such, of course, are to be avoided. That which will come nearest to being a "sure cure" is interest, and this should be the teacher's first recourse.

Following the roll-call were opening exercises. These were varied from day to day. One morning they would con-

sist of interesting chemical or physical experiments. (Many such have been described in the Youth's Companion.) The next day there would be a few short recitations by different pupils, and quite frequently there were songs sacred and secular, (but not silly), in which all joined. Occasionally the news of the day was presented in a "paper" edited by the language classes. Sometimes an interesting story or chapter from an interesting book, the Bible included since there were no objections, was read. "Queer queries," concerning the common things of the world about them elicited interest and enthusiasm. Science lessons on such topics as "How coal is made," "Where rubber comes from," "What the moon is like," etc., were given. An interesting biography, now and then, was included. Memory gems were recited occasionally. "Whittier's Day," "Washington's Birthday," and the like had literary and historical value. Health lessons, good morals, and gentle manners appeared. A program committee assisted the teacher and helped to increase the interest. The influence of these opening exercises toward preventing tardiness and absence and increasing the interest of both pupils and patrons, aside from their culture value, was great.

Opening Exercises.

After the opening exercises were over, the teacher gave such general explanations as were needed, and the school settled down quietly to its legitimate work—study and recitation. A program, printed by the teacher, upon manilla card-board, was constantly before the school for the guidance of both teacher and pupil. If the teacher is in touch with

Working by Schedule.

his pupils, he can soon determine whether they are rightly dividing their time. It will not require many days to determine this. Then if it be ascertained that the pupil is neglecting his Language work for his Arithmetic, his Geography for his History, or any or all for an interesting book, a change can be effected.

In our school the time and attention of the teacher were almost entirely occupied with recitations. True, the least inclination toward evil was sure to find the all-seeing eye of the teacher turned full upon it, but in spite of that the teacher taught with all his might. There were no interruptions, requests, or questions from those who were not reciting. The books, pencils, knives, etc., were provided in advance, and each pupil studied his own lesson. Each decided for himself the propriety of any movement from his seat, knowing full well that the abuse of any privilege meant an absolute forfeiture thereof. Feet and books were moved quietly, because each had been made to feel that unnecessary disturbances were absolute thefts of time. There are but few pupils so obstinate that they will persist in causing disturbance after the matter is properly presented by a teacher for whom they have respect. When a general spirit of listlessness seemed to be developing, all work was put side for two minutes while a song was sung or a calisthenic drill given with several of the windows open. Pure air is an efficient ally of law and order. Many an insurrection has been suppressed by this agency alone. In the passage to and from recitations, to the black-board, and about the room the same principles governed. All work in

General School-room Conditions.

which a number participated was directed by signal. Rise, Pass, Seats, Turn, Erase, and the like, were frequently heard and promptly obeyed.

The recitations showed preparation on the part of the teacher and pupil. Each member was interested and any lagging was instantly detected. The recitation was more than a "quiz." It was a place of positive teaching. Something new was constantly evolving. The relations of teacher and pupils were free from constraint, yet respectful and genteel. There was no scolding. Work was ready because pupils knew that no work escaped preparation. It was only a question of now or later. The attitudes of teacher and pupils, in the recitation or out, were never unseemly. Tones were low, yet distinct, and the language employed was as good as its users could make it. Questions were asked and directions given *but once*. Hands were raised to indicate a willingness to answer. Pupils were encouraged to ask appropriate questions, and the uplifted hand indicated such a desire. Pupils were not called upon in any definite order. No one knew when his time was coming, except when he became inattentive. Bright pupils did not monopolize the time. Every mind in the class was kept on the alert from beginning to end. With this teacher every recitation was a part of a general scheme. As such it served to further a certain general aim. But in addition to this general object, each lesson had its own specific purpose or purposes. It might serve to test the pupil's preparation of work assigned; to give a drill in thoughtful expression; to ascertain the further needs of the pupil; to

The Recitation.

provide needed help by question, suggestion, reference, or statement from the teacher and by the variety of ideas and modes of expression among pupils; or to impress ideas by the various forms of review that the recitation furnishes. Sometimes several of these ends were sought through the various phases of the recitation or even through a single aspect of the lesson. But such a thing as a purposeless recitation or even a recitation without a definitely recognized purpose was unknown in that school.

Purposes.

To secure these ends requires effort—forethought and determination. The teacher is the principal factor in the success of the recitation, although the pupil also has a part. The teacher's part begins in his preparation for the assignment of the lesson. The term "preparation" is used advisedly. Lesson assignment ought to mean something more than a mere, "Take the next." The nature of the lesson itself, the capabilities of the pupils, the amount of time at their disposal, the relations of this lesson to past and future lessons, the amount and kind of help necessary, all should be in the teacher's thought in making the assignment, and to get them there requires effort. After the teacher has determined what the assignment shall be, he should make it with such unmistakable clearness that no pupil can mistake the amount or nature of his work. The time necessary for such an assignment, even for writing it upon the board, occasionally, will be well invested. This definiteness rarely precludes an assignment in such form as to accommodate the varying capacities of the pupils. If the

Assigning Lessons.

lesson be assigned topically, yet skillfully, the weakest and the strongest alike can employ the full time allotment.

When the lesson is once assigned, it is, in a measure, handed over to the pupil. Knowing what is expected of him and knowing it will be required of him, he sets about his work. Whatever preliminary preparation is necessary, he makes. If he be an ideal student, he enters into the work with a vim. His entire thought is given to the contest at hand. With confidence in himself and in the teacher's judgment in the assignment, he expects, he desires nothing but complete success. The artifical and external incentives which must be applied to others are not needed for him. His motive power comes from within. He has learned that he has power and how to use it in genuine effort. In short, he has acquired the power of self-direction—he can study and wills to study. Before the hour for the recitation arrives, the teacher finds time to take up the lesson in detail and plan its presentation. He determines the method—whether interrogative, topical, or lecture—the sequence of topics and the amount of time each shall receive, the supplementary matter to be introduced, the illustrations necessary, the management of each class so that each pupil shall get the greatest possible benefit. He refreshes his knowledge of the lesson so that it stands out clearly before his consciousness with its relations distinct. Fresh from this preparatory review, the teacher meets his pupils and imparts to them his own fervor of thought. There can be nothing cold or lifeless in such a recitation.

Study of the Lesson.

Sympathy of interest prevails. Sincerely and earnestly does the teacher strive to make this recitation the means of putting into the soul of the pupil something that was not there before. For such a recitation, a beautiful room, slate blackboards, library, apparatus are but accessories. There are but two vital and indispensable elements in that organic unity—these are teacher and pupil. Given a Garfield and a Hopkins and the recitation is a foregone success, even with a log for a recitation-seat and the forest for a school-room.

Under ordinary circumstances, however, it must be admitted, Mark Hopkins will have a much easier time with his Garfield, than he would likely have as teacher of a class in the ordinary grammar or high school. In other words, it is less difficult to stir the soul of one Garfield to a white heat, than to arouse a perceptible warmth within the class of forty. So varied are the tastes and capabilities of the forty that despite the teacher's enthusiasm and masterly comprehension of the subject, some there will be who will fail to catch his spirit, and hence the need of good judgment relative to the more mechanical elements of the recitation. There may be such mismanagement that even the fullest familiarity with the lesson and the most glowing enthusiasm will not avail. The teacher must not keep his eye so continuously fixed upon the stars as to fail to take an occasional look for possible obstructions to his feet. In the ideal recitation the confidence of the pupil is not abused by a manifest failure. Neither is he purposely kept in the dark concerning the purpose of the recitation, as the manner of some is, until a final "grand stand play"

can be made. The ideal recitation is not developed on the plan of the modern novel with a resplendent climax at the end of a protracted mystery. It is not expected that the pupil will foresee the end as the teacher sees it, neither ought the pupil to be expected to relish a shock of enlightenment at each initiation into some new truth. Another characteristic of this ideal recitation is concentrated thought on the part of the pupils. With the end, so far as they perceive it, as a goal, they employ their energies in hard, steady, consecutive thinking. The teacher's method is such as to direct them into channels of continuous thought, and the pupils have sufficient power to keep themselves there. In too many recitations, neither teacher nor pupil seems to have the power of persevering. They move by jumps which are as likely to be backward or sideward as forward.

Questioning is the usual avenue by which the teacher enters the pupil's circle of thought. The primary purpose of questioning—that of eliciting information—is lost in class questioning, and other ends take its place.

Purpose of Questioning.

The primary purpose of class questioning is not always the same. At one time it may be to test the pupil's recollection of certain facts or his preparation of certain work. At another it may be to ascertain the correctness of the pupil's ideas or his degree of comprehension of a given subject. Again it may be to direct and develop thought, thus leading him into paths which his feet would not otherwise tread. These objects increase in dignity and importance in the order named, and although it may not be claimed that the

last is the most general aim of class questioning, it may be said that no other equals it in value. Nevertheless, it is true that much class questioning never rises beyond the dignity of a mere memory test. Fellow-teacher, what is the object of your questioning? Is it *instructive, educative?* Does it guide and stimulate thought? There are times, of course, when the desire is to ascertain what the pupil knows and how correctly he knows it, but too few are the teachers who know of the higher value of questioning. The form of questions must be governed, in part, by their purpose. If the aim be to direct and develop thinking, certain forms are at once excluded. There will be neither guidance nor development in questions that are ambiguous or indefinite, or those that overwhelm the pupil, in those that require an answer of merely *yes* or *no*, or put a premium on guessing. Questions should be concise, varied, and suitable to the advancement of the pupils. The answer should be concise, yet complete, in full statements, usually, and pertinent to the question.

These qualities our teacher endeavored to embody in his class-work. In the meantime his spirit is felt throughout the school. He governs by encouraging right and preventing wrong—by appealing to the pupil, in the best ways possible, to choose to do the right, preventing, by creating an atmosphere unfavorable to wrong-doing and one not in sympathy with it. Success in school government depends largely upon the ability to repress the evil and develop the good until the latter obtains undisputed sway in the life of the individual. The evil is repressed by allowing neither time nor opportunity for its

development. Pupils who are kept constantly busy under the watchful, sympathetic eye of an honorable and capable teacher and who feel constant appeals made to a noble principle within, will soon yield to the good. Rare will be the exceptions. If the teacher has the tact to force his pupils to assume the responsibility for their own choices of conduct, they will generally choose right.

Good disciplinarians are seldom made by precept. But imperfect ones may be helped by suggestions. The following rules for the teacher will be suggestive, at least, if thoughtfully considered:

1. Be capable in teaching.
2. Be honorable in action.
3. Have ideas of right and stand by them.
4. Be strong, not vacillating.
5. Begin to govern in time.
6. Keep pupils busy.
7. See everything that happens—before it happens.
8. Appeal to the best that is in every pupil and *compel* him to realize the character of his acts.
9. Be not afraid to talk with a pupil alone.
10. Let the offender suffer the natural consequences of his wrong-doing, as far as possible.

In concluding this chapter on School Management, the authors desire to emphasize the fact that it is only a *chapter* that they have attempted. A "philosophy" of the subject is beyond their aspirations. To set forth some helpful suggestions has been their desire, the height of their ambition.

Aim of this Chapter.

PART SECOND.

CHAPTER I.

READING.

INTRODUCTION.

READING ranks first in importance in any course of study. Without it no other subject could be pursued. No other subject influences human conduct so much. Religions and forms of government are changed by it; the achievements of the past are laid at our feet through its influence; illustrious deeds of departed heroes are held up for our admiration; the philosophy of the ancients is compared with that of the present; through it, we receive the choicest thoughts of the greatest intellects of all ages. Through it, we are enabled to converse with Homer and Aristotle; with Virgil and Cæsar; with Cædmon and Bæda; with Chaucer and Spenser; with Bacon and Shakespeare; with More and

Reading in a Course of Study.

Milton; with Whittier, Bryant, Longfellow—any poet, historian, or philosopher of any age.

Reading is the key that unlocks the storehouse containing all knowledge. What, then, can be said of its importance? Who should be able to reap its benefits? How well should it be understood? When should it be commenced? What are its difficulties? "There is no other subject so important" is the universal answer. Every intelligent creature with a soul to expand should receive its benefits. Without it, mental growth would almost cease; the energies of a people would be confined to narrow limits; gossip, scandal, and ignorance would take the place of discussion, social intercourse, and intelligence.

Importance of Reading.

It should be so well understood by all that the thought and feelings of the author as represented upon the page should be instantly presented to the reader's mind without waste of mental energy in removing difficulties. The eye of the reader should possess such skill that the instant it catches the word the idea should appear in his mind, and he should scarcely be conscious that the word is there—he is conscious of the soul of the word, the idea, but not of the word itself.

Thoroughness in Reading.

Reading should be so mastered that the reader feels a keen interest in the article read; feels that he is listening to the narrative by the author in person; he should know how the author looks, where he lives, what is his characteristic style, the subjects he loves to dwell upon—all about him.

Reading should be known so well that companions

may be selected from the great list of authors that will be helpful and inspiring. It should enable the reader to choose from the good, the best; to select from the best, their choicest thoughts. It should cause us to yearn for the companionship of the good and great; it should make us *in reality* think and feel as they thought and felt when they penned their masterpieces. Reading should be so mastered that the whole scenes and pictures should appear in the mind—not simply outlines. It should develop literary taste, and literary judgment. It should create in us a desire to have libraries containing the best thoughts of the best authors written, as they are, at their best periods of life.

What Reading Should Do for Us.

Reading in the common acceptation of the term applies to school work, or the preparation for this higher phase. As such it should remove the mechanical obstacles and give the greatest skill in the use of the organs employed in getting the thoughts and feelings of the author as represented upon the page.

Reading as Commonly Understood.

Reading should be commenced early. When we consider that of all the pupils who enter school, only one out of every twenty-four ever finish the common school course, we are forced to say that reading should be taught in all its fullness as early as possible. At an early age the obstacles should be removed, and the organs used in mastering the mechanical side of the subject should be trained; the ability to grasp the "soul" of the lesson—the thought and feeling—should be given; literary taste and judgment should be developed.

When Reading Should be Commenced.

Its difficulties are mechanical and psychical and may be overcome by proper training. With improper training at the outset, students are constantly meeting with the same obstacles from year to year, with loss of interest on the part of the pupils; with proper training these are removed as they are encountered, and interest with each succeeding lesson increases. Poor interest usually comes through poor teaching; poor teaching comes from low ideals of the teachers concerning what constitutes good reading. Some consider the reading good when a student pronounces all the words with little or no hesitation, regardless of the thought and feeling contained; the ideal of other teachers is reached when there are ready pronunciation and distinct articulation.

Its Difficulties.

If a teacher's ideal is low, reading that reaches it will be pronounced good; if the ideal is high, it will require good reading to meet the requirements. Every teacher of this subject should have high ideals of the requisites of good reading. In Arithmetic a problem is pronounced incorrect if any principle is violated; so, in reading, should a teacher criticise by the same rigid test.

Ideals.

Good reading is interpretation—interpretation of the thoughts and feelings of the author as represented by the article considered. Reading is therefore of two kinds; viz, for self and for others. Reading for self is usually done silently; for others, orally. Reading for self is bringing the represented thoughts and feelings of the author into the consciousness of the reader. Reading for others is much more difficult; the

Reading Defined.

thoughts and feelings of the author as represented upon the page must be understood and felt in their fullness before it can be represented orally to others. Perfect reading for others would awaken in their minds exactly the thoughts and feelings as awakened in the mind of the reader of the same experience and mental ability. In order for the listener to grasp the thoughts and feelings as gathered from the page and represented orally, it is necessary that the reading be loud enough and distinct enough to be heard and uttered with naturalness—"the word suited to the action, the action to the word."

Requisites of Good Oral Reading.

DIFFICULTIES IN READING.

The difficulties in reading are psychical and mechanical. The psychical difficulties arise from illogical, confused habits of thought. This mental condition can, in a majority of cases, be overcome, and the students *taught to think*, or, more strictly, to confine their thoughts to definite channels. Questions and suggestions tending to focus the mind on the central thoughts of the lesson will do much from day to day toward fixing the habit of logical thought. The language exercise in connection with every reading lesson should direct the mind into correct mental habits. The student should be led to distinguish between the important and the unimportant facts of the lesson and to understand the relation of all minor facts and circumstances to the central ones. The thought of many good minds is vague at first and needs the direction of a skillful teacher.

Psychical Difficulties.

Mechanical obstacles in reading are of two classes: those that the reader must overcome in himself, and those he must overcome in the article read. The second class will be discussed in connection with the various readers. Good vocal expression requires that there shall be strength enough for the listener to hear the words of the sentences without a special effort; articulation, that the elements of the words, sounds, may be easily heard; and modulation to give naturalness. Teachers with high ideals of good reading will find the obstacles in securing these results, and also a remedy for their correction. In addition to the suggestions in connection with each lesson, general lessons should be given frequently in order to show what the defects are, their seriousness, their cause and how to correct them. Poor vocal expression usually comes from some of the following causes, usually several of them combined:

Mechanical Difficulties.

1. Incorrect position of chest.
2. Incorrect position of arms.
3. Incorrect position of head.
4. Prevailing nasal tones.
5. Rigidity of facial muscles.
6. Failure to use the lips.

Telling pupils of these defects does but little good, because they do not *realize* nor *fully understand* what is being said till these defects are made glaring by example. These obstacles should be removed as early in the term as possible, or more strictly, should be assailed,—the assault being kept up the entire term. The time will be well spent if the teacher takes the time of the whole room to

point them out. The whole room is suggested because the defects of all grades are of the same character. Such general exercise once or twice given near the beginning of the term will remove some of the hindrances and make the others clear to the students, and they will avoid as many as habit will permit. The interest will be increased and the students will criticise with reference to these sins against expression. With high ideals of expression once fixed in their minds, the great work is done—they train themselves.

The following general exercise is recommended to show these defects to a class or school. Bend the body forward and backward slowly, talking or reading as you do so.

Incorrect Position of The Chest.

Have the pupils listen and decide what position is correct for good vocal expression. They will always decide that the erect position is correct. Repeat this till all fully understand this fact. When this is done, explain that the impure tones are caused by the muscles pressing upon the ribs, combined with the lessened cavity containing the lungs. It is easy here to show that standing on one foot causes a similar result.

Place the arms across the chest allowing them in any way to press against it. Continue to read or talk, carrying the elbows to the sides, or removing the pressure. Repeat several times. Have pupils to decide what is the natural position. Explain the cause. The chest serves as a sounding-board, and anything touching or pressing against it destroys its power of vibration.

Incorrect Position of Arms.

Read or talk with the head erect, slowly moving it

forward and downward till the chin almost rests upon the breast. Continue to read or talk till the head is in its natural, erect position. Again have pupils to decide the proper position for good expression. The muscles and tendons press upon the throat and prevent the vibrations necessary for expression. Show this by lightly pressing one finger against the throat, and speak or read. The muscles and tendons have the same effect as pressure by the finger. Show that only nasal sounds should be made through the nose and that there should not be a *prevailing* nasal tone. Clearness, freedom from nasal tones, the proper use of the tongue, teeth, and palate make the voice attractive. Hold the jaw stationary and read or speak. Now, have students watch the chin rise and fall while you read or speak naturally. Some words are made with the mouth almost closed, others, with the teeth far apart.

Incorrect Position of Head.

Prevailing Nasal Tones.

Ridgity of Facial Muscles.

Read or speak without using the lips. The student will see that there are many words requiring perfect freedom of the lips. To the foregoing many other difficulties to be met might be added. It is safe to say that the teacher who shall eradicate these will discover the minor ones and apply the proper remedy. Begin on the great evils and with their correction the small ones will disappear. The foregoing exercise will enable the students to decide for themselves what are the causes of the most common errors in expression. With this knowledge acquired, they at once have their ideals of good expression raised, resulting in good expression in

Lips.

reading, and improved expression in conversation.

Let us here remark that loose, careless, lazy, drawling, inarticulate conversation is common, and that a cultivated voice is the exception. We speak in monotone from "morn till noon, from noon till dewy eve." Some voices are so loud that they smack of rudeness; some husky or rasping; some shrill and some drawling. We lack rich, mellow, modulated voices. Students will not change their voices until they realize the benefits. They will not realize these until correct expression is contrasted with the incorrect. The ability and desire to improve the expression must be given to the student. There should be a general awakening among the teachers on the subject of expression, both in reading and conversation.

Expression in Conversation.

A PLAN IN TEACHING READING.

An ideal recitation in reading may be divided into four parts as follows:

The Parts of a Recitation in Reading.

1. The language exercise.
2. The word-recognition.
3. The capitalization and punctuation.
4. Reading for expression.

Their natural order is as indicated above. The stress to be placed upon any one part will depend upon the grade of the pupil and the character of the lessson. Capitalization and punctuation are only incidental and are confined chiefly to the lower grades. The other exercises are always prominent, and proper attention should be given to each in every recitation.

The object of every lesson is to convey to the student information, to increase his intelligence, to appeal to his feelings, and to strengthen his will power. Clustering around these central objects are many things that are necessary corollaries of them. The benefits of each lesson must go to the student. When a lesson is properly prepared and recited the student is mentally stronger than he was before. The language exercise should always precede word-recognition or reading for expression. Its objects are to interest, to test the preparation of the lesson, to encourage accurate observation, to stimulate mental activity, to train in correct habits of thought, and to bring logical conclusions.

The Language Exercise.

Each lesson has its new features, and the teacher should know what they are. The *soul* of the lesson is brought out in the language exercise. The student is trained in observing and seeing the relation of all minor facts or circumstances to the important parts of the lesson. The language exercise should arouse intense interest among the students, and each should be encouraged to enter into it with all his mental vigor. No one should speak except when called upon, but all should be ready and anxious to respond. Intense *silent* mental activity should be going on with all members except the one who is *expressing* his thoughts. Thought power is the object, and a lifeless, aimless language exercise arouses but little thought and does but little or no good. Any exercise that does not get an individual out of his ordinary "gait" is worth but little; any exercise that causes more than the usual amount of blood to flow to any particular

organ gives strength and increased growth to it. So it is with the mind; activity causes mental growth. The student should be taught that the best recitation is by the one that gives the best interpretation of the lesson. Thought must be behind all expression. Oral expression is always desirable, but clear thinking will generally find clear language for expression. The work of all teachers is, primarily, to develop thought and, secondarily, to train in the expression of thought. How any teacher can take up any lesson in any modern school reader, ask a few formal questions, get a few parrot answers, call the children to pronounce the lesson, and have a clear conscience and peaceful dreams is a mystery that is yet unexplained. The whole scene should be made so vivid that it is left with all its details fixed permanently in the student's mind. When this is done properly, the student is prepared to express the thoughts in such a way as to bring out the meaning, giving prominence to what is important and the emphasis to what is not in proportion to its relative value.

The printed words are only mechanical symbols to convey thoughts or feelings not expressed orally or by gesture. Since every symbol has a definite significance in a given connection, it is necessary that the reader must recognize the symbol and what it symbolizes, or to know the name of the word and its meaning. Thought is continuous. To express thought represented by words it is positively necessary that each word and its meaning should be recognized instantly, for if this is not done the thought is broken and the effect lost. If the symbol and its meaning is recognized, there is no

Word-Recognition.

hesitation in expression and no improper modulation given —the meaning being clear, the modulation is proper. While the word-recognition is less interesting to teacher and pupil, it is very important and should not be neglected. Word-recognition must be rapid and certain. If words are not known at a glance the mental energy that should be confined to the thought of the lesson is used in finding out the word. The connection is broken, and good reading is impossible. Every new word recognized, its form, name, and meaning, increases the student's ability to do still more difficult work. Advancement into more difficult literature must come by constant increase of a reading vocabulary, coupled with additional mental power. The task of recognizing all the words in any series of readers is no small one, yet continued systematically from day to day, the work will be accomplished. In our adopted readers there are about 5.000 different words, a vocab ulary perhaps as large as is used by any person. This seems a great undertaking, but a simple calculation will show that the mastery of less than five words each day for the eight years, of seven months each, of our common school will do the work. Capitalization and punctuation are only incidental to reading. The written work in connection with reading and all other subjects should be capitalized and punctuated properly. In the first year the student should learn nearly all rules of capitalization and punctuation and their application. The amount of work of this character, and the method of teaching it has been fully discussed in the paragraph upon the First Reader.

Capitalization and Punctuation.

When the student has given evidence in his language exercise that he understands the true meaning of the lesson, and when the words are mastered, both as to form and meaning, he is ready to take up the lesson and read with expression.

Reading for Expression.

METHODS OF TEACHING THE ADOPTED READERS.

FIRST READER.

Train the eye, ear, and hand of the primary pupil. Train the eye to recognize the word as a whole, not a composed of a number of elements. We learn by units—you do—all do. You would not take up the elements of a barn before you knew it. You know an engine at sight, but do you know what composes it? Train the student's eye to see the form of the word. When this has been done, give its name. In presenting each new word, its form and general appearance must be impressed upon the child's mind. How? Through the eye. It can not be recognized till its "picture" is presented to the mind. Its form must precede its name. They are soon associated, and the pupil knows the word, that is, knows its name. If three strange persons were brought before you and their names given, could you at once point out each and give his name correctly? You could not do so unless you observed the features and general appearance of each. Could you readily give their names in passing the eye rapidly from one to the other? The name is associated with the person slowly at first, then by further association the person and his name seem to blend. When the asso-

Ear, Eye and Hand as Factors in Reading.

Word-Recognition.

ciation is so perfect, the name would be presented to the mind the instant the eye glances at the person.

Words are less interesting than persons. The process of recognition is the same. We should have every pupil to see the form of every new word. When the form is impressed, give the name. This process should be continued, the speed being increased till recognition is instant. When word-forms can be recognized instantly, then, and not till then, are the pupils prepared to read with good expression. Children will memorize the lesson, look at the ceiling, use good expression, give every word in exact order, and many teachers are so blind that they do not detect that their pupils are doing so.

There are 576 different words in the Franklin Primer and First Reader, or nearly seven new words to each lesson. The average term of school in Missouri is about 140 days, making about four new words each day. Any child can learn this number if properly taught. The teacher must know what the new words are. When words can be recognized instantly, spelling should be done. Spelling should ordinarily be done after the recognition exercise has been finished. When words are all recognized, then have the pupils to read. Be sure the eye is following the line. Ask them to read as they talk. Have them judge for themselves who reads most like he talks. Have the pupil to read a paragraph; then let some other read the whole lesson.

Words in First Reader.

Train the eye to observe closely. It is more difficult for children to recognize small words than large ones. For example, *in* is more difficult than *it; chair*, than *sea-bird;*

is, than *afraid*. Be sure *all* see the words. If five are in the class and only three are *seeing*, the lesson is only three-fifths mastered for the class, and there is a growing necessity for two classes instead of one. If retained in the same class, the two hold the three back, or else the two advance in their book, leaving a part of the work undone, and they soon form the habit of doing the work imperfectly —one of the worst habits a student can fall into. Give attention to all and special attention to those who need it most. Make the eye, ear, and hand the chief factors in learning to read; the eye to see the printed word, the ear to hear the spoken word, the hand to write the words at the seat to imprint them more deeply upon the mind.

Any teacher who follows this plan must necessarily succeed in teaching the First Reader. Not much time is required. A student can in a term of six months read every lesson, spell and write every word, and read with ease, rapidity, and expression any strange reading containing the words of this reader. It is a cruelty to keep children in the First Reader more than one school year.

The following Model Lessons will make clear to the inexperienced the application of the foregoing suggestions.

MODEL LESSON, No. I.

Based upon lesson I, p. 1, Franklin Primer.

T. What do you see in this picture?

S. A man.

T. What is he doing?

A. He is sitting on a bench, holding a cane and a newspaper.

Language Exercise.

T. What else do you see?

S. I see grass, trees, and clouds.

T. Again.

S. I see a boat and a river.

T. What else?

S. Birds flying.

S. I see a house on the other side of the river.

T. How many think this is a river?

S. I think it is an ocean.

S. I think it is a river.

T. Why?

S. The house is on the other side. If it were an ocean you could not see across it.

T. That house you see is a light-house; the water you see is an ocean; a light-house is generally built upon an island in the ocean, and has a great light in its top so sailors will not run their ships on the rocks.

T. How many will try to remember what I have told you?

T. This word is *man*. Who can find it again?

S. I can.

T. Again. (Give time for each to find it.) Word-Recognition.

T. Again.

T. Look at it. Now look from your book and see if you know how it looks. (Give some time for this, and see that all try to recall the word.)

T. This word is *see*. Look at it. (Give time.)

T. Find it.

T. Again.

T. This word is *I*. Look at it.

T. Find *I*.

T. Again.
T. Find *man.*
T. Again.
T. Again.
T. Find *see.*
T. Again.
T. Find *I.*
T. What is this word?
T. This?
T. This?
T. This?
T. This word is *a.*
T. Find it.
T. Again.
T. Let all spell this word—m-a-n, **man.**
T. Again—m-a-n, man.
T. Who can spell it without looking?
T. Again.
T. Class.
T. Again.
T. Let us all spell *see*—s-ee, see.
T. Again.
T. Again.
T. Who can spell it without looking?

Reading for Expression.

T. Again.
T. All do so.
T. Again.

T. Who will read for me?
T. That was good.
T. Who else?

T. Who else?

T. Who will read it so we will think he is talking? (Student reads.)

T. Class, read. (They read in concert.)

T. I shall now write this lesson on the board. See how straight I make the letters. Watch my hand as I make the words.

T. Who will try to write it on your slate as well as I did?

T. I shall come to see how well you have done your work when I have heard my next class. (Be sure to go.)

MODEL LESSON, No. II.

Based upon Primer, p. 8.

T. Who can tell me all about this picture?

T. What else do you see?

T. What else? — Language Exercise.

T. Where is the cat?

T. Tell the use of cats.

T. Anything else?

T. Who can find the word *cat?*

T. Again.

T. Who else?

T. Class, let us spell it—c-a-t, cat.

T. Class, again. — Word-Recognition.

T. Without looking.

T. Again.

T. Spell *see.*

T. Spell *man.*

T. Spell *can.*

T. Who will read it? (Students read as called upon.

Reading for Expression.

T. Class, read. (They read in concert.)

T. Now watch me write *cat*. You may write *cat* three times at your seats.

MODEL LESSON, No. III.

Based upon Primer, p. 9.

The language exercise in this is similar to former lessons and may be shortened or lengthened according to the time the teacher has. In all cases, the objects of the language exercise should be kept constantly in mind—viz: to train the child in language by the use of language, to develop accurate, thoughtful observation, and to awaken his interest in the lesson, and to make him know the whole scene, and feel the force of the whole lesson. When this is done, the child can read with expression, and not till then; he can not express what is not in his mind, and the only way to place it in his mind is by observation and comparison.

Language Exercise.

In this lesson grouping is commenced. In the spelling at the top of the page it will be noticed that *a* and *boy* are grouped in the way they are usually associated, "a boy;" also, "the boy," and "I can see." The object is to train the eye until it can "catch" groups of words as a single word is recognized. This is certainly the correct method. The groups are at first short, as in this lesson, and are lengthened as advancement is made.

Word-Recognition.

T. Children, notice at the top of the page that *a* and

boy are together. In talking we never say *a-boy*, but we say *a boy*—we say it naturally *a boy*. Notice, also, that *the boy* is written together and should be pronounced together, *the boy*. *I can see* is, also, grouped.

T. Who can find *a boy?*

T. *The boy?*

T. *I can see?*

T. Again.

T. *A boy?*

T. Again.

T. Again.

T. *I can see?*

T. Notice that the last line is a question, and has a question mark after it. We make it this way. (Teacher shows class.)

T. What is it called?

S. A question mark.

T. It is sometimes called an interrogation point.

T. What is it sometimes called?

S. An interrogation point.

T. Whenever it is placed after a sentence we should read like we were asking a question. Reading for Expression.

T. Who will step to the board and make it?

T. Who will read it just like he talks?

T. Who else?

T. Who else?

T. Class, read. (They read in concert.)

MODEL LESSON, No. IV.

Based upon lesson, p. 11.

This language exercise should be conducted as sug-

gested in preceding "Model Lessons," the children developing the lesson, filling in all details necessary to a complete story about the picture. The teacher should direct the exercise by a few skillful questions, briefly stated,—close observation, active thought and conciseness of statement being stimulated in the pupils. Word grouping should be continued.

Language Exercise.

The child should at a glance of the eye recognize "Can run," "This boy," "Tom can run." A drill in grouping will be of great assistance to teacher and pupil. Before grouping can be done successfully, instant recognition of individual words must be accomplished.

Word-Recognition.

T. Students, the large letters are called *capitals*. See what words begin with them.

Capitalization and Punctuation.

T. Who can tell me one?

S. "See."

T. Another?

S. "This."

T. Another?

S. "Tom."

T. Another?

S. "Do."

T. Another.

S. "Can."

T. Every sentence should begin with a capital.

T. See if this is true in this lesson. Look at the lesson.

T. How many think so? (All raise hands.)

S. There is one word not at the beginning that

begins with a capital.

T. What is the word?

S. "Tom."

T. Yes, *Tom* is the name of a certain person. Names of persons should also begin with capitals.

T. Let all repeat what I first told you about capitals.

All. The first word of every sentence should begin with a capital letter.

T. Again.

All. "The first word, etc."

T. How many remember what I told you about names of persons?

T. All repeat it.

All. Names of persons should begin with capital letters.

T. Point out the marks in this lesson.

T. Again.

T. Another.

T. Another.

T. What does it mean?

T. Read just like you think this ought to be said if you were there playing. (Student reads.) Reading for Expression.

T. Who will try to read it just right? (Student reads.)

T. Who will read this with a soft, mellow voice? (Student reads.)

T. Let me read it for you. Listen and notice my voice. (Teacher reads perfectly.)

T. Who will try to read it as well as I did? (Student reads.)

T. All read. (They read in concert.)

T. I shall write this line on the board. You may write it three times at your seats. Be sure you get the capitals right and make a nice mark at the close. (Teacher copies while the children watch.)

T. I shall see who does it best. Pass to seats.

NOTE: Each lesson has something new. The teacher should know what it is. Teach the new inductively, using such method as seems best. The foregoing is only suggestive to show the plan praticed by many good primary teachers. Every teacher should have a "plan." This plan will vary somewhat with the lesson. No teacher can succeed without a plan, closely followed.

Only one more model lesson on First Reader will be given, leaving the teacher to discover the new features of all intervening lessons. The following is given only for the purpose of showing that the thoughts brought out in the language work show close observation and correct conclusions. This is taken from an actual recitation, the regular work.

MODEL LESSON, No. V.

Based upon lesson p. 37, Primer.

T. Tell me all about this lesson.

T. What is her name?

S. Her name is Nellie.

S. She is having her mamma to guess what she has.

Language Exercise.

T. How does her mamma look?

S. She has her chin on her hand studying.

T. What does she guess?

S. *A flower.*

T. Why?

S. Because she knows little girls like flowers.

T. How do you think she then looks?

S. She shakes her head and says, "What *can* it be?"

T. What does her mother then do?

S. She studies.

T. What does her mother then guess?

S. *An egg.*

T. How does the little girl then look?

S. She looks worried and says, "O, *no!* mamma, it is not an egg."

S. Her mamma studies again and says, "An apple?'

T. How does the little girl then look?

S. She looks pleased.

S. She claps her hands.

S. She says, "Yes, a big sweet apple."

T. What else?

T. What else?

T. What else?

T. Who is *Fred?*

T. Who knows all the words?

T. Read them at the beginning of the lesson.

T. Begin at the bottom and pronounce them?

T. Do so from right to left.

T. Who can do so faster? Word-Recogition.

T. All spell *mamma.*

T. What words do you see beginning with capitals?

S. "Mamma."

T. Why?

S. It is the first word of a sentence. Capitalization and Punctuation.

T. Who sees another?

S. I do.

T. What is it?

S. "Is."

T. Why?
S. It is the first word of a sentence.
T. Any other?
S. "Nellie."
T. Why?
S. It is the name of a person.
T. Find another.
S. "No." It is the first word of a sentence.
T. Another.
S. "O."
T. Why?
T. When *O* is used alone it is always a capital.
T. Another.
S. "Let."
S. "An."
S. "Yes."
S. "Thank."
S. "Nellie."
T. Why?
S. It is the name of a person.
T. Another.
S. "What."
S. "Fred."
S. "Fred."
S. "Do."
T. What marks of punctuation do you see?
S. A question mark.
T. What is its use?
S. To ask a question.
T. How do you read a sentence followed by it?

S. Like a question.

T. Who else can find one?

T. Again.

T. Again.

T. What other mark?

S. An exclamation mark.

T. Again.

S. Again.

T. What are they used for.

S. To show that the sentence should be read as though the person was excited.

T. What other mark?

S. A period.

T. What is its use?

S. To mark the end of a sentence, or an abbreviated word.

T. Find another.

T. Who will read this lesson just right. Be sure to read just like the little girl talked, and then just like her mamma talked.

Reading for Expression.

T. Who else will try to read it better?

T. What mistakes were made?

T. Who knows every word in this lesson just as soon as he sees it?

T. I will now pronounce the hard words in your next lesson.

SECOND READER.

The Second should be studied and taught according to the same general plan suggested for the First. The Lan-

guage Exercise, Word-Recognition, Capitalization and Punctuation, and Reading for Expression change to some extent their relative importance.

Use Same General Plan in Reading.

The language exercise, or more strictly the thought, differs widely from that in the First. Every lesson in the First has for its subject-matter play, and it is such play as is confined to the room or to places under the mother's personal care. In the Second, the author recognizes that the circle of the child's activity has increased; its responsibilities have increased; it has duties to perform; it has obligations to fulfill; it has new objects to see in the animal, vegetable, and mineral world. To continue upon subjects about which it knows fully would be to check its interest and stop its mental growth. The body and the mind grow by assimilating new material. When new material ceases to be furnished, repair and growth cease. A new field of thought must be opened to the 7-year old suitable to his advancement. The author recognizes this fact, and has admirably provided the best—just what the child will relish and what it most needs. The play has changed; a greater freedom has been given the child. It swings, or fishes, or engages in sports, further removed from its mother—its personal responsibility increases. Those things that are so intimately connected with character-building become prominent at this age. With this greater personal freedom, it becomes necessary to lay broad and deep the foundation upon which the child will build his character.

Child's Circle of Activity has Increased.

This period is pre-eminently the age of character-building, because it is the beginning, the age when the child

becomes self-directing. The author recognizing this fact makes the main object of 44 out the total 63 lessons, the building of character. The main object of the remaining 19 is the acquisition of knowledge of surrounding objects. Upon close observation it will be found that these 44 lessons teach truthfulness, love of God, self-control, honesty, politeness, friendship, love for freedom, cheerfulness, kindness, and industry. A wonderful triumph for humanity if these lessons are made lasting! With these essential virtues impressed—with the foundation of character laid, the structure of knowledge may be safely built. Teachers should know what is in a book, and the main things to place the stress upon, before they can safely teach. The Second Reader contains many beauties. Would you teach your child without a definite aim? Would you be base enough to do so with the helpless, innocent child of another? The thousands are in the lower grades—the few in the upper. Which should receive the most time? It is obvious—the child that cannot help himself.

The Age of Character-Building.

The Word-Recognition should be kept prominent in this reader. The meaning must accompany the recognition. In this reader there are 793 new words. When it has been mastered, the child has a speaking and a reading vocabulary of 1369 words—576 of which were learned in the First. This will require the mastery of about 6 words per day. The teacher should see that they are mastered from day to day. If they are not, the student is soon dealing with many meaningless terms, loses interest and ceases growing intellectually.

Word-Recognition Prominent in this Grade.

In the mastery of words spelling is necessary. This will be discussed in a separate division. All marks of punctuation and the uses of capitals are introduced in this book. On page 15 all are used in one exercise. This is intended to be copied to train the hand and eye in the use. In lesson I. the quotation marks are introduced. These marks should be well understood in connection with the next succeeding seven lessons. In the same way, when any new mark is introduced it should be recognized whenever it is met with in the future and used by the pupil till it is a part of his being to such an extent that it will be applied unconsciously by him. It is then his, in fact. We learn things for their use; they are not ours till we can use them. The form as shown by a child's habitual work is a good index to what he *knows*. *Knowing* without *using* is in a way a waste of time and energy. When our use of knowledge becomes habitual, we have permanent power. When this thoroughness is acquired, it and all previously acquired knowledge become the instrumentalities for future acquisitions. If these conclusions are correct, what must be said of the care that should be used in imparting instruction? Reading for expression should be continued. Students should read with voices at proper pitch, not too high nor too low. Their voices should be trained in modulation. At this age their voices are in a formative period. The suggestions of the author of our adopted books are helpful and should be studied. Pupils in the Second Reader can do far more than the average teacher thinks they can.

Punctuation and Capitalization.

Form of work a good Index of a Student's Knowledge.

Reading for Expression.

THIRD READER.

The child who enters school at six and makes the advancement that the average child under favorable conditions makes, finds himself entering the Third Reader at eight years of age. The circle of his information has again increased. Within its circumference is the known, beyond is the unknown with which he is constantly coming in contact. The human mind loves novelty. The newspapers dwell upon "The War Cloud in the East," "Hawaiian Annexation," or any one of hundreds of topics till they see the people tiring, then they bring forth some other subject of real or fancied interest. Campaign issues change because the people tire of what is old, and new subjects are discussed with the greatest interest, not so much because the country needs a reversal or change of policy, as that the psychological element, *novelty*, renders the subject interesting. So it is with children. What is novel is interesting, and what is familiar is tiresome. That teacher does his work best who interests the student in what is new and holds his attention to it till he sees all that is novel and combines it with all that is familiar into one complete concept of the subject considered.

Novelty the Motive Power in Learning.

The author of our adopted readers recognized the gradual widening of a child's mental vision, and has provided reading matter full of interest and suitable in character to the demands of the mind of the eight-year-old. A sufficient number of lessons have been introduced to keep the moral faculties active and growing. Moral education lies at the foundation of

Adopted Books Based upon Complete Living.

human happiness and human progress. It determines the destiny of mankind—on earth and beyond the grave. Complete living, our definition for education, must have been in the mind of the author when he prepared our adopted readers. Upon investigation it will be seen that thirty lesson have for their main objects the teaching of the chief virtues that go to make up good character. The teacher who fails to leave vivid the main objects of these lessons has failed to do the duty he owes to his pupils and to society. He must see in the pupil the future citizen, intelligent and moral. He must see in each lesson the great objects that contribute to the pupil's intelligence or morality.

Forty-one lessons of the Third Reader have for their main objects, science lessons. They are drawn from Geography, Zoology, Botany, narratives or descriptions

Forty-One Lessons Based Upon Science.

How many students know well all the lessons in this reader? How many *teachers* understand "The Wonderful Boat and its Builders," "Frogs and Toads," "Bears," "The India Rubber Tree," and many others of a similar nature? When we consider that the only object of learning to read at all is to "*get the thought and feelings from the page,*" we realize that no lesson is *read* till the students get all the information contained, and feel the emotions that would be aroused were they present at the scene described. These forty-one lessons are chiefly for the information they contain, and the test of their being correctly read is the ability of the student to reproduce the substance of the lesson.

The power to interpret the meaning of a Third Reader

lesson indicates that the pupil is able to increase his fund of knowledge from other books, and has the means of self-education at his command. The student in this reader is constantly called upon to exercise his judgment and use his imagination in "seeing" the views presented by the lessons. The student who reads glibly through the lesson, and can not write or tell the contents of it, distinguishing the important from the unimportant, things told directly from those told indirectly, has not read the lesson at all. The main object of the lesson has been omitted—getting the thought. Such a lesson confers no more power than reading (?) the word lists at the head of the lesson or the lessons in the spelling book. Word-recognition is essential and should precede reading, but should not be confused with reading. It is only a *means*, not an end. No mental growth results from such a recitation; no power is conferred; no interest is awakened.

Teachers who have such reading have poor language lessons, poor geography lessons, poor arithmetic lessons. Why? Because no meaning is gotten from *any* lesson—no lesson is *read*. Students need direction and guidance in reading. At the beginning of the term the teacher should take special care to assist pupils in working out the meaning of the lessons. There should be system in doing so. Skillful questions will assist in causing pupils to look for the underlying meaning.

Poor Lessons Result in Poor Lessons in Other Subjects

Every student should be trained in thought-getting from whatever he reads. The reading lessons are the ones where this training should be most prominent. It is

in these recitations that the power of thought-getting should be conferred. When this ability is given the student, he reads all other lessons, his supplementary work, home study, and home reading, with an object in view—thought-getting. What is the use of a student's learning to read if he does not learn this? It is true he will learn it incidentally, but his knowledge will be imperfect. This phase of the lesson should be developed systematically, and the student learns it systematically and in a much shorter time than if he "picks" it up. If system in the matter is introduced at the opening, the student learns the system, and assimilates it and uses it unconsciously—he has gained a permanent power. Any system with a rational basis is good. The following outline for questioning and discussion is known to be good.

Training in Thought-Getting.

Outline for class questioning and discussion in reading.

- I. Objects of the lesson.
  - A. Primary.
  - B. Secondary.
- II. Facts or circumstances of the lesson.
  - A. Expressed.
  - B. Implied.
- III. Reasons for answers.

This or some other system should be used in all reading classes above the Second Reader, and the students should understand how to write out or tell the contents of a lesson by it. It will save a teacher much work, as he can frequently have lessons written out by it, and can see who is doing the work and who is not. By it, also, the class learn to do

System in Examination and Preparation.

neat form work. They also learn logical thinking. It is only suggestive. It serves as an excellent means of determining quickly the preparation of the lesson. It aids teacher and pupils. It is comprehensive enough to get all out of the lesson. It should not be followed blindly with a few formal questions and answers, but should serve to direct the minds in connected, logical thought in full and free language. As remarked elsewhere the great object of school is to arouse logical thinking and mental activity. Any system of education that is not based upon the theory of mental growth of the child as the chief object, is a failure. Form work and memory work are essential but are secondary to perception, reasoning, and judgment. Correct understanding of all other subjects depends in a large measure upon the ability of the student to understand his reading lesson. Special attention given to reading will repay in the gain of time in the teaching of other subjects.

Beauties of language, of description, and loftiness of sentiment should be pointed out by the teacher, and the pupils should be trained to recognize and point them out. Literary criticism should be commenced in this grade, and continued through all higher work. The large number of poems introduced in this book and the classics recommended in the appendix will furnish ample material for this phase of the work.

Literary Criticism Begun in This Grade.

All reading should be done naturally, in rich, mellow, well-modulated voices. Our author takes for granted that at the close of this grade the reading has reached the elocutionary stage, and accordingly has introduced a chapter in the beginning of the Fourth upon Elocution by Prof.

Bailey of Yale. These ideals of reading cannot be reached at once, but under good teachers, each following the same general plan of our author, they can be reached in a few years.

FOURTH READER.

The character of the selections show a broader field to meet the child's increasing mental activity. The lessons on science and literature increase while those on character-building decrease, there being only enough to keep up moral growth, and to introduce moral precepts less obvious than those of former readers. The thought-side of reading should be pursued by the same scheme as previously suggested. Literary criticism should be more exact; literary judgment more accurate.

Selections Based upon Science and Literature.

The reading of this and succeeding grades should become more elocutionary. One caution here: No elocutionary reading in any grade should be attempted till the thought-side has been mastered. It would be absurd to attempt to express by speech and *gesture* what can not be interpreted—what is not understood. If the work has been properly done in previous grades, this higher phase of expression can, and should be, done. Every teacher should study the article on Elocution by Prof. Mark Bailey, pages 25-38. The suggestions on pages 11 to 24, and the general directions on page 38 are valuable, and make any special suggestions unnecessary. A large number of standard authors are represented and selections from their master-pieces are given. Students should be made to feel a desire to

Elocutionary Reading.

read in its entirety the piece from which the selection is taken.

Two classics recommended for this grade should be read. While at present but few schools read, in the lower grades, anything more than what is contained in the text, yet the day is not far distant when every first-class school, whether country, village or city, will give the children a taste of the standard literature in all grades.

Supplementary Reading.

FIFTH READER.

The selections of this reader are chiefly from Science, Literature, and History. The same plans as previously suggested are recommended with reference to the thought-side of the subject. "Essentials of Reading" by Prof. Bailey, found on pages 13 to 61, make any additional discussion of the subject unnecessary. Ninety-three standard authors are represented in this reader. In no grade should quantity be sacrificed for *quality*. In all grades the student must be in the mind of the teacher, and the greatest increase of mental power is the test of the best teaching. The idea so prevalent that any one can teach reading is erroneous. Too few teachers know what is good reading. Should it not demand more attention?

Science, Literature and History, the Basis in This Grade.

LITERATURE IN THE COMMON SCHOOLS.

Two classics should be critically read each year as supplementary reading. The great majority of children leave school at a comparatively early age, and the best educational thought declares that every student should

be given a taste for standard literature as early as possible, and have the opportunity of reading it for himself. How much richer in thought our students would be if they could have an opportunity to read sixteen classics in the eight years of the common school course! Yet is it not their right to have this opportunity? Is it not our duty as their teachers to see that they have this opportunity? Should we not give them the best of everything in our power to bestow? How much richer intellectually you would be if you had had this privilege while in the common school. Shall we refuse it to our students simply because we did not have it? Or shall we give them an opportunity to drink at the fountain of knowledge and slacke their burning thirst?

An Early Taste for Literature.

The reading lessons are well chosen, though fragmentary. Children should be allowed to read the stories that have delighted the gone-by ages. The poetry and song of the departed great should be a part of their reading. The never-dying deeds of heroes should be cherished and read for their moral sublimity and for the strength of character they give. The legends and fables that have influenced the home-life of our ancestors are worthy of the attention of all. Stories setting forth the ideal state of man's earthly life should be read for the placing in the consciousness typical states. Historical scenes should stand out to appeal to our patriotism. The domestic life of great nations should be woven into attractive forms of fact and fancy. National characteristics should appear in travels and story. Undying purity should be typified in real or

What the Classics Contain.

imaginary characters. Superstitions of races with their influence upon civilizations are attractive and instructive. The besetting errors of mankind should be told for the moral they convey. The subjects that have engrossed the energies of all nations at all times should receive careful study of all mankind—and especially the boys and girls of America, who are to lead our nation to grand achievements or into the paths of retrogression. Nothing grand and good is too precious to give our boys and girls. The mind is best educated that has its fullest expansion. The aim of the Creator is certainly for the greatest expansion on earth, expansion in knowledge, in right living, in purity of thought, and nobleness in action. The greatest achievements, the wisdom, the experience of mankind, has been handed down to us through literature. The best of this we call classics. Would it not be a sin against the interests of the human race, an acknowledgment of a low conception of the importance of our mission to deny our children the benefits of the best of all the departed billions of the human race, "Since first the flight of time began"?

As educators are we not criminal, cowardly or ignorant if we refuse to point out these best of the best to the inexperienced and helpless placed in our charge—students who study whatever we select, good or bad, useful or useless. While the character is forming it needs direction and food for growth. A taste should be formed for what is good, and the fountain heads of knowledge should be visited, that the student may find, when alone, a place for psychical refreshment.

Our Duty as Educators.

By this study the student's vision is expanded. He

soon learns that he is one small unit whose activity and influence is to be measured by that of any one of millions of other intelligent beings with like hopes, trials, joys, and aspirations as himself. His ideas become cosmopolitan, and he no longer confines his thoughts exclusively to his "parish bounds," but takes for the field of his activity the whole material and spiritual world. He approaches the universal in thought and action and does not confine himself wholly to the petty details of daily existence, through which so many see no connection with the past or future. The fine sentiment, the moral ideas, the fine distinctions between right and wrong, become his own. Standards of purity are fixed; types of manhood and womanhood are accepted as models for guidance in future conduct. The logical analysis, the consistency of comparisons, and delicacy of discriminations are discovered and assimilated. The characteristic style, the choice he makes of words, the grandure of conception of an author become models for the reader, or serves as examples with which to compare other authors.

What Classics do for the Student.

It cannot be urged satisfactorily that teachers do not have time for the classics. If properly taught, the interest they add will compensate any seeming loss of time. Upon an examination of our readers it will be found that the average for the different grades is 63 lessons for each year. This number is less than a half lesson each day of the average term, thus giving time to complete what usually is done, with half the term left for reading the classics. Any two classics recommended can easily be read and assimilated in the time al-

Have we Time for Supplementary Reading?

lotted. Even granting that some of the reading work were omitted in order to have the work in the classics, the time is more profitably spent. The articles in the readers, being fragmentary, cannot create the thirst for literature that other pieces in their entirety do.

A PLAN FOR TEACHING THE CLASSICS.

1. Have the literature in grade one at the reading period on Monday, grade two Tuesday, grade three Wednesday, etc., making the literature a special feature for each day.

2. Do not allow pupils to keep the books except at such times as is desired for studying the lesson assigned. This will cause the class to look forward with anxiety to the day for literature.

3. In the study, have the pupils to give time, place, and circumstances surrounding whatever is referred to in the lesson. Encourage the use of the dictionary in all grades above the third.

4. Teach as you would reading.

SPELLING.

The following are extracts from an article on spelling kindly furnished by Supt. F. P. Sever, the author of The Progressive Speller, adopted for use in Missouri schools:

Science is usually defined as classified knowledge.

The science of Botany is the knowledge we have of plants arranged in a systematic and convenient form. Spelling, then, is a science to the extent and in the sense that knowledge in its particular line is arranged in a sys-

tematic form, and so classified that a general knowledge of the subject may be more readily attained than would be possible without such classification and arrangement.

Like Botany, like Physiology, or like any other science, the clearer, the more thorough, and the more apt or germane the classification, the better, and the more nearly perfect it becomes as a science, as the knowledge is widened and the classification is perfected.

Spelling is now more nearly a science than it has been in the past, for the reason that there is at present a better classification of the facts and principles involved, and a better arrangement of words for spelling in accordance with certain principles involved than was noticeable twenty or even ten years ago. It is a fact that goes without proving that the mind grasps principles and general rules more readily, and holds them in memory with less effort and with greater accuracy than it grasps or holds isolated points.

For this sufficient reason the idea of grouping words under general rules, and in general classes has been adopted. The mind naturally associates and contrasts places, forms, dates, names, etc.

* * *

The law of association and of all the attendant contrasts, agreements or disagreements, is certainly one of the greatest laws of memory and of mind. We are safe in saying that the human mind lives in a world of comparison, and we are safe also in saying that we can only know of one thing by comparing it with something else, with something either like or unlike it.

The grouping of words, either because of their agreement or disagreement, their similarity or their unlikeness, their association with the thoughts they represent, and the form they have when they represent certain thoughts is conforming to this, the greatest law of the mind, viz: the law of comparison, of association.

Synonyms, antonyms and homonyms involve agreement or disagreement, association and contrast, and in this we have the scientific basis or ground for collecting and arranging groups of such words. This association tends to impress the spelling. We at once think of the gas we breathe when we see the word "a-i-r," and we at once think of an individual when we see the letters "h-e-i-r," because we have learned the word and its spelling in that association; and when a word form has been learned in a certain association, its form attends its association, and its association likewise attends its form.

In this law and principle lies the great reason for associating and teaching to a large extent the meaning and application of words along with their spelling, as is so thoroughly done in the spelling book recently adopted for use in Missouri.

This same principle applies in the grouping of words that relate to a given subject, as Geography, Medicine, etc., and to the grouping of words under certain rules. If a hundred words of a certain class are spelled under a certain rule, and there are ten of the class that are exceptions, it is easier to learn and hold in memory the ten exceptions than it is to commit the form of the one hundred words without the aid of this rule, and still have the ten excep-

tions to commit in addition.

The arranging of words in lists that rhyme with each other, or that seem to have an easy jingle has its benefits, but it is not a scientific method. It is a method more to be recommended for pupils who need drill in sounds, for pupils who are nearly as likely to begin the word "hat" with an "l" as with an "h," or to begin the word "book" with an "s" as with a "b."

The great and fundamental principle to be observed in spelling is the law of association, applied in various ways, and yet always the same law.

Again, as "Necessity is the mother of invention," so, too, is it an incentive to good spelling. Create a necessity for the correct use of words, and correct use involves their correct spelling, and you at once have hold of the long arm of the lever. In doing this you are at the same time coupling the word with the thought it represents, and this leads us to a principle involved that is kindred to that of association, namely, the principle that spelling is to many persons, and in a large degree, a form study, appealing to the mind through the eye. We learn how a word looks when written or printed, and recognize it when we see it, or in our mind's eye, we behold its form when we think of what the word stands for or names.

The various letters involved and their relative positions in the word are photographed, as it were, upon the mind through the eye. The truth of this statement is so self-evident, or has come, as we take it, so often to the attention of teachers, that we deem it scarcely worth while to argue its correctness. Granting its truth, then, it fol-

lows that, as a rule, the correct form should be presented.

* * *

The letters in the words and the relative positions they occupy are fundamentals, while pronunciation is a close second.

Diacritical marks are valuable in pronunciation where the values of the marks are known, but if the learner is not thoroughly familiar with the value of each mark, then the marks lose much of their effectiveness. The diacritical marks, then, must, under the conditions, be used with such frequency as to render familiarity certain.

The teacher will of course remember that the diacritical mark is an accident and not an essential. It is custom that determines the pronunciation of a word, hence custom is the essential, and the mark is used simply to indicate what custom has established, but when the learner sees a word written, and with certain marks attached to certain letters, but does not know what sound the mark gives to the letter to which it is attached, he (the learner) can then come no nearer giving the pronunciation to the word than he could before he saw the word written with the letters thus marked. Hence, the necessity for familiarity with diacritical marks.

Word-building is another means of generalization, a kind of association. The student soon acquires a knowledge of a few root words, a few prefixes, a few suffixes, and a few easy rules for the formation of derivative words, and in this acquires the key and access to extensive lists of words.

Word-building not only enlarges the pupil's vocabu-

lary, and at the same time gives practice in spelling certain classes of words, but it furnishes also a field for thought, invention, word-forms, analysis and synthesis. For examples and suggestive forms of word-building, see pages 86 to 96; also pages 123, 124, 125, etc., of the Progressive Speller. For word-building, the material should be supplied and methods suggested, but the constructive work should be done by the student.

This brings this phase of spelling up to the laboratory plan, and by it more faculties than memory are brought into play, for while the subject-matter is presented in systematic and classified form, the learner must draw upon and apply previously acquired knowledge and principles and thus spelling, at least the word building phase of it, is largely converted into a thought- and form-study.

* * *

The first essential in the teaching of spelling, as in the teaching of every other subject, is that the teacher be endowed with a real interest and enthusiasm for the work. The teacher's interest and enthusiasm is contagious and will soon take hold of the class.

In addition to this, the teacher should of course have a wider range of the subject than can be given in any one text-book, should be a student of words, should not be disappointed or discouraged if the progress of the class should seem low.

Lessons should not be too lengthy, neither should they be too short. The work should neither be all written nor all oral, but the two forms should be duly combined or used to suit conditions.

The teacher should make, or should cause to be made, lists of words that have been incorrectly spelled in the written spelling, and, in fact, in all written work, and these lists should be placed on the blackboard to form lessons for special study once a week, or as often as may be necessary. The meaning and application of words should be taught, in so far as may be, along with the spelling, so that the law of association may have full play.

In short, spelling should be largely a work with words, a study of their forms and their application, and as the author of the speller recently adopted, says in his preface: "The teacher's duty does not end with giving out the words; the student can do more than memorize perplexing combinations of letters; teacher and pupil can join in a most delightful employment, the study of the spelling of words and of the ideas they represent; expressing new thoughts by varying the relations of the component parts, and converting the often tedious hour of the spelling class into a pleasant ramble in the fields and by-ways of our language."

CHAPTER II.

ARITHMETIC.

INTRODUCTION.

EXPERIENCED teachers agree with Dr. Harris that no subject taught in the elementary school taxes the teacher's resources as to methods and devices to a greater extent than Arithmetic and that none is more dangerous to the pupil in the way of deadening his mind and arresting its development, if bad methods are used. The importance of good methods, therefore, can scarcely be over-estimated. There is a growing feeling of dissatisfaction with the results of our mathematical teaching. This impatience is not without justification, and the unsatisfactory results obtained are due, in part at least, to the methods employed. On the other hand, there are many who believe that the study of mathematics—whether of Arithmetic in the common school or of Calculus in the university—does not yield all of the beneficent results sometimes claimed for it. It is possible to "go to seed on mathematics." This not infrequently happens and not alone to those country boys, who in their desire for "practical" arithmetic refuse to study almost everything else. What-

Too much of a Good Thing.

ever may be the final decision of the educational experts as to the prominence of the mathematical element in a model course of study, it will not be questioned that in many of the rural schools of our state this factor is receiving undue attention. What shall it profit a boy if he gain the ability to solve every problem in the classic "third part" and lose the lessons of History, Literature and Science? Or what shall he give in exchange for the ability to speak or write correctly an English sentence? It is not that he should love Arithmetic less but that he should love other things more?

Before taking up the matter of method in its application to the various divisions of the subject of Arithmetic, certain general principles, which will be kept constantly in mind by the writers, and should be as constantly regarded by the teacher, are set forth.

GENERAL PRINCIPLES OF ARITHMETICAL TEACHING.

1. *First Teaching should be Concrete:*—The child's first ideas of numbers are obtained through objects and can be obtained in no other way. True he may learn the language of numbers without the objective basis, but that language will be content—less until by the use of objects he puts a meaning into these empty forms. Better far is it to follow nature's way, which is to teach through contact with things. Concrete Work.

Gradually, however, the pupil must pass from the concrete things to the abstract relations. From one apple, one book, etc., he must rise to the abstraction *one* and similarly with two, three, etc., with the ten or the hundred,

with period, multiple, denominator, ratio, and, in fact, with the whole circle of arithmetical terms. He begins with crawling on all fours, but he must learn to walk.

2. *Processes Should Precede Rules:*—This is but an extension of the preceding principle. If the idea for which a term stands should precede the term itself, is but logical to say that the idea of a process should precede its description in the form of a rule. Painfully vivid in many a memory are the recollections of rules that "must be learned" before even the simplest problem was given. It is a valuable exercise to write one's own rules from one's knowledge of how a certain process is carried on.

3. *Principles Outweigh Rules:*—The pupil who has realized the force of dividing the terms of a fraction by the same divisor will not halt long at reduction of fractions to lowest terms. After he has mastered the cube, he will be troubled little with bins, wood-piles, wagon-beds, and stone walls. Possessed of the fundamentals of percentage, its applications are easy. Memorized rules are the husks of Arithmetic. He has wandered far from the home of good teaching who would fill his pupils with such food.

4. *Arithmetic Should be Made to Fit into the Home-life and the School-life of Pupils:*—This means that the bins and feed-lots and stores, and the lessons in history and Geography, Literature and Science should be allowed to contribute material for arithmetical work. Pupils will not only solve such problems willingly but will delight in devising problems from the same sources.

5. *Learning by Doing is the True Way:*—Squeers's

sending Nicholas to "do" horse after "learning" horse was pedagogical as well as economical. The boy who has curried a horse *knows* a horse as he could never know from books alone. "Horse" seems to get into his nervous and mental mechanism in a most enduring and satisfactory way. So it is with the bin or yard one measures, with the weights or measures he handles, with the figures he constructs, with the checks or notes that he writes. The products of his own powers are more real to him than those about which he reads or hears or even those which he merely sees. That number work which is coupled with some constructive activity possesses most vitality and interest and effectiveness.

6. *Habits of Order, Neatness, and Accuracy Result from Proper Mathematical Training:*—Youth is the plastic period of life. Every repeated act tends to becomes habitual—as true of the bad as of the good. "Sow acts and you reap habits." Carelessness, slovenliness, inaccuracy—order, neatness, accuracy—which shall it be? The harvest *must* be as the sowing. This group of undesirable habits, characteristic of so many of our advanced students, can be traced at least as far back as the elementary school. True, the origin may be in the home, but the teachers (and none more so than the teachers of mathematics) are responsible for the permanency of those habits.

If a boy cannot be led to see a difference between good form and chaos and to show by his work that he does see it, he will, when he reaches manhood, rarely drive a straight corn-row, mow the weeds along his hedge-ways, house his self-binder, or

write a letter that any one save an expert can decipher. Let his occupation in life be what it may, the results of early mistraining will cling to him, to his hurt.

7. *The Purposes of Arithmetical Study are Various:*— (1) Arithmetic has a practical value to which reference has been made. A knowledge of Arithmetic is necessary to the successful management of a household, a farm, a store, a shop, or an office; and a mastery of the general principles of Arithmetic sufficient for the solution of such problems as are likely to arise in any of these places, should be given to every normal boy and girl. (2) Arithmetic has a disciplinary value, not only in the formation of habits but also in the development of mental power—"the power to put two and two together." (3) Arithmetic has a preparatory value. It is the basis, under our present arrangement of courses, for all subsequent work in mathmatics and much work in the natural sciences. The necessity for clear concepts and right habits of thought is, therefore, apparent.

PRIMARY NUMBER WORK.

Reference to the Course of Study, (p. 17), will show that the first year's number work is with numbers from one to ten. It includes the following:

First Year's Work.

1. Meaning of each of these ten numbers and the written and oral expression for each; the latter in three forms—verbal, Arabic and Roman.

2. All additions of integers of which the sums are below 11.

3. All subtractions of integers in which the minuend is less than 11.

4. All multiplications of integral factors in which the products are less than 11.

5. Division of each number below 11 by all integers not larger than itself.

6. Some work with the half, third, fourth, fifth and multiples of these fractions.

7. Denominate units whose equivalents can be expressed in numbers less than 11.

8. The signs +, −, ×, ÷, and =.

9. Concrete problems almost without number, to impress and apply the foregoing.

The materials needed for doing this work well are as follows:

Materials for Primary Number Work.

1. A box of wooden tooth-picks — for splints — and a few rubber bands.

2. A pint cup, quart cup, gill, gallon, and bushel measures.

3. A pair of scales.

4. Foot-rules and yard-sticks.

5. One-cent, five-cent, and dime pieces.

6. A large quantity of shelled corn, some acorns, beans, buttons, etc.

7. Apples and potatoes, for fractions.

8. Hewett's Manual of Primary Arithmetic.

9. A numeral frame.

10. A set of number cubes.

The tooth-picks will cost five cents, the bands two; the measures can be borrowed; the scales can be manufactured by an ingenious boy; the rules and yard-sticks can be secured free from advertisers; the coins can be saved

from last pay-day; the pupils will contribute each an ear of corn or an occasional apple or potato; the Manual is listed at 27 cents, the numeral frame can be obtained for 90 cents, and the cubes cost 50 cents per hundred. Thus the entire expense is small, and even one or both of the last two articles mentioned may be omitted, though at a certain loss. For teaching the various combinations and separations of numbers there is nothing to equal the cubes; for dry measure nothing surpasses shelled corn, and for fractional divisions the apple is unrivaled. For rapid work in addition and subtraction the numeral frame is excellent.

Cost.

Importance of Objective Work.

It is hoped that no teacher will under estimate the importance of these objective aids. Children can be taught to "count" without them, and so can a parrot with equal mental gain. By all means should the various operations of this year's number work be largely concrete.

As a guide for the teacher, our State Text-Book Commission recommends Hewett's Primary Arithmetic. The work of the first year is therein well presented, and every teacher of primary Arithmetic needs the book. The first 78 pages of this manual should be covered during the first nine months of school life; but inasmuch as the pupils cannot read, the book is for the teacher only. These recommendations must not be construed as an unqualified endorsement of the work. There are very few works on the subject of methods (or any other) that the thoughtful teacher will endorse throughout. In fact the more thoughtful and self-reliant a

Hewett's Manual.

teacher is the less likely is he to follow any book without question. No author of a treatise on methods expects or desires more of his book than that it should be suggestive to progressive teachers. It is in this light that Hewett's book should be considered. Certain changes are suggested in the belief that they supply deficiencies or remedy defects.

The changes proposed are the following:

Changes Recommended.

1. Teaching of each new fraction by dividing a unit —a thing Hewett expressly forbids. But notwithstanding the weight of his authority, we are constrained to assert that fractions are "broken units" *first* and "relative units" *afterward*. Without instruction the child will no more answer the question, "One is what part of two?" than he would, "One is what power of two?" Our suggestion is that a unit—an apple—be cut into two like parts and the "one-half" and "two halves" taught; that two units be cut into halves and the fact discovered that one-half of the two together make a one; that a half of four ones is the same as two, etc. Proceed similarly with the thirds—one, two and three—with the fourths, and fifths. Other fractions may be deferred until the next year.

2. Early in the work, e. g., in connection with six, teach the sign ($\times$) and its meaning, tabulate the multiplications already studied, and add to these tables new products as learned. At the end of the year the blackboard should contain the following summary:

$1\times1=1$	$1\times2=2$	$1\times3=3$	$1\times4=4$	$1\times5=5$
$2\times1=2$	$2\times2=4$	$2\times3=6$	$2\times4=8$	$2\times5=10$
$3\times1=3$	$3\times2=6$	$3\times3=9$		
etc..	$4\times2=8$			
$10\times1=10$	$5\times2=10$			

3. The sign ($\div$), "divided by," in such expressions $8\div2=4$, should be interpreted as meaning "how many 2's in 8?" should be introduced toward the end of the year, and may be used in the construction of tables like these:

$1\div1=1$	$2\div2=1$	$3\div3=1$	$4\div4=1$	$5\div5=1$
$2\div1=2$	$4\div2=2$	$6\div3=2$	$8\div4=2$	$10\div5=2$
etc.,	etc.,	$9\div3=3$		
$10\div1=10$	$10\div2=5$			

The pupils may also be taught to measure even where there are remainders, as 8 equals 2 threes with 2 remaining, 9 equals 2 fours with 1 remaining, etc.

4. The Roman notation for these ten numbers should be taught near the end of the year.

5. The zero (0) should follow the introduction of the minus sign for use in such expressions as $5-5=0$, $3-3=0$, etc.

6. As the several numbers are studied, their use in the various denominate scales should be set forth. Thus in the study of "two," the child is taught that two pints are the same as one quart. The "pint" is presented to him concretely, and he measures the pint cup into the quart. So in connection with the three he learns 3 feet equal 1 yard; with the four that 4 gills equal 1 pint and 4

pecks equal 1 bushel; that 5 cents equal 1 "nickel;" 7 days equal 1 week; 8 quarts equal one peck; 10 cents equal 1 dime and 10 dimes equal 1 dollar. After considerable material of this kind has been gathered, the pupil, for "busy work," may fill out some such schedule as this:

( ) gills = 1 pint.		( ) pints = 1 quart.
( ) pints = quart.	or	( ) quarts = 1 peck.
( ) quarts = gallon.		( ) pecks = 1 bushel.

Second Year's Work.

The second year's work, in the main, is similar to the first. The pupil deals with larger integers and smaller parts, but his increase in mathematical stature permits it. The numbers to 20 are studied, the year's work beginning with a review of the first ten numbers. In this review it is desirable to introduce some new features, and this affords an opportunity for the study of the sixths, sevenths, eighths, ninths and tenths of the unit and of the corresponding integers. Should a short school year force the ninth month's work toward the middle of the second year, there should still be a review when "ten" is reached. With the numbers above ten, the corresponding fractional parts should be presented. Counting by 2's, 3's, 4's, etc., and the extension of the multiplication and division tables and the inexact divisions are important matters.

Some new denominate units and scales are to be added, as follows:

12 inches equal 1 foot.

12 months equal 1 year.

16 ounces equal 1 pound.

There should be much concrete work with these new and the old units, using both multiples and parts. Halves, thirds, fourths, sixths, eighths and tenths should receive much attention. Lengths, heights, widths, distances should be measured in appropriate units, and, wherever possible, should be converted from one to the other. Practice drawing lines one foot, one-half foot, one-fourth foot long, or putting dots certain distances apart, then measure to test accuracy of work. Estimate lengths of objects by moving the hand along them, eyes closed. Estimate heights of pupils, ceilings and other objects. Select the longer or shorter of two lines, the larger of two similar and nearly equal surfaces, the heavier of two objects, etc. Construct squares upon given lines, then measure. From a miscellaneous assortment of sticks or lines select all beyond, less than, or equal to a certain stick or line. Select the six-inch line, the ten-inch stick, etc. Cut (from paper) or draw six-inch, two-inch, three-inch squares. Practice cutting lines and rectangles into halves, thirds and fourths. Estimate contents and weights. Estimate the number of dots, grains, etc., in an irregular group. Test the accuracy of every estimate by exact measurement, weight or count. The value of these exercises is great. Speer's Arithmetic, Part I., is full of just such work. In the work with denominate numbers, the aim should be to have each unit clearly defined in the learner's mind. "Yard," "pound," "pint," etc., should mean something definite to him.

To Train the Judgment.

After passing ten and getting a fair start toward twen-

ty, the pupils will delight in running ahead of the wagon, and many a time the teacher, who is busy with some number will be approached with, "I know what the next number is." It requires only ordinary ability to grasp the principle involved and to make up the new numbers ahead of the class-work. The development of the new numbers is an easy task. Likewise, when 20 is reached, a few minutes will suffice to start the pupil equipped with splints on his way toward 30. After seeing that two "tens" and one are 21 and that 22 and 23 are similiarly made up, he will himself write and name the others. So, also, when he has passed 30, he will go on to 40 and to 50, 60, 80, 99. (See Hewett, pp. 124-132, for suggestions.)

From 10 to 20, and to 99.

One method of presenting the hundred, 10 tens, is shown on pp. 132-3 (Hewett.) Having seen one "hundred" in the large bundle and comprehended its writing, the pupil will have no difficulty with two "hundreds," three, four, and so on to nine. Then going back to 100, show and write 101, 102, - - - - -, 110, 111, 112, - - - - -, 120, 121, - - - - -, 130, 131, - - - - -, 140, - - - - -, 150, etc. With this start, nothing more than an occasional question or suggestion will be necessary to enable the pupil to write the numbers to 999 as "busy work."

As an aid to the understanding of the numbering of reading lessons the Roman notation to one hundred may be taught without a systematic attempt to master the principles.

During the first half of the third year (18th to 22nd month) the reading and writing of numbers to four places,

9999, will give employment for seat work. This can be done without the splints. There should also be as much addition and subtraction by 2's, 3's, - - - - - 9's, as time will permit. This will serve as a basis for the multiplication and division tables, which should be carried to 10 tens and preferably to 12 twelves. The study of individual numbers from 20 to 30, and of such useful numbers as 36, 48, and 60, may be continued after the plans of the preceding years. Pupils now have strength to undertake more difficult types of fractional, work and such work as finding $\frac{1}{5}$, $\frac{2}{5}$, $\frac{3}{5}$, $\frac{4}{5}$, $\frac{5}{5}$, of 13, 17, 23, etc., is possible. The schools of Kansas City show magnificent results with even younger pupils and more difficult work.

Third Year— First half.

WRITTEN ARITHMETIC—MILNE'S FIRST BOOK.

By the middle of the third year the pupil will be able to use the elementary text. The matter of the first 77 pages will have been canvassed so thoroughly that the work may begin with page 78. The alert teacher will have drawn from these 77 pages many valuable exercises and suggestions. Now, the pupil passes from "number work" to "arithmetic." Pencil and tablet are much more in demand. Numbers entirely too large for oral manipulation are to be operated with; numbers so great that he has at best only a vague and general notion of them. New methods come in also, and these must be mastered. Thus the learner has really reached a new epoch in his educational career.

Milne's "Elements."

No difficulty will be experienced in extending the

principles of numeration and notation to numbers of more than four places. In those schools in which the pupils have not been taught as the preceding pages have suggested, it may be necessary to establish these principles concretely. If so, let the splint bundles be produced and the basis laid for a comprehension of our system of notation, and the ordinary child will not comprehend it satisfactorily unless it is presented concretely. But splints and objective aids should be used only as long as they *aid*. Used too long they weaken, but let them be kept on hand to be used in case of emergencies. Gauge the pupil's power, and then exercise it just so far as to develop it by requiring its best efforts. Keep him engaged with small numbers until he is ready for large ones.

Notation and Numeration.

Here, as elsewhere, Milne's book is rich in exercises. Use them with discrimination. Use such as suit the case in hand, and as many as are necessary to accomplish the desired purpose well. If more are necessary, draw upon some other text, but select judiciously. Avoid the wasting of the pupil's energy upon ambiguous or obscure problems.

It may not be amiss to say a few words on the subject of expression. The cardinal virtues of mathematical expression, are clearness, conciseness, accuracy and good form. Ambiguity, wordiness, inaccuracy and carelessness in both oral and written expression are to be avoided. Every word or character used should have an unmistakable meaning and a specific purpose, and every unnecessary element should be omitted. Attention to these points will secure a discriminative use

Expression.

of the "and" where necessary and its complete omission in the reading of whole numbers, where its use is unnecessary, will provide the hyphen in such expressions as "forty-six," and "ten-thousandths," will require that "is" and "are" be properly used and that the cipher be called naught or zero, but never "aught." These are merely suggestive and are typical of those "little things" by which scholarship is identified.

When the "operations" of Arithmetic are taken up, in addition to the qualities already mentioned, rapidity becomes a desirable aim. Ultimately the fundamental operations within the range of simple numbers should become almost automatic. Such combinations as $9+6$, $15-9$, 9×6, $54\div9$, etc., should require no more thought than is required to recognize the word "cat" when seen. The recognition of the power of the combination of either the letters or the figures should be *quicker* than thought. Strive for rapidity of work. Encourage pupils to work rapidly. *Compel* them to do so. Time the pupil, then encourage him to do the work in less time. Stimulate in him a desire to surpass his former records. Endeavor to carry into the Arithmetic class some of the spirit of bicycling and foot-ball.

The Aim.

Throughout the study of Arithmetic it will be necessary to solve problems dealing with abstract numbers only, but the preference should be given to those involving concrete relations. The mechanical element will be the same in the two, but the first is only mechanical. The latter involves thought. Thus the mechanical work is the same whether the problem reads "Multiply 26 by 40," or "Find

the cost of 40 acres of land at $26 an acre," but the former is almost devoid of mental discipline, and hence the preference expressed above. In the solution of these concrete problems there will be an explanatory analysis, but care must be taken that this analysis does not become a meaningless or mechanical form. "Mere words" are to be avoided.

Concrete Problems and Analysis.

The exercises in articles 67, 73, 81, 96, 118, 150, etc., are typical of our author's method of introducing new topics. This line of work is one of the most valuable and suggestive features of Milne's books and illustrates what is commonly called "inductive teaching." Invariably based upon what the pupil is reasonably expected to know, these exercises are so well chosen that they lead the learner step by step, "from the known to the unknown," from his former acquisitions to a new definition, principle or process. The contrast between such a method and that of plunging at once into definitions and rules is truly great. The teacher will certainly not fail to utilize these exceedingly valuable preliminary suggestions in introducing new topics. If this method is not a familiar one, it will pay to investigate and use it.

Inductive Method.

The amount of drill work like that given on page 104 (Milne) must be governed by the needs of the pupils. To drill on what pupils have mastered is to waste valuable time and energy. But there is not much danger that pupils will know these elementary combinations too well. Through class-drills, busy-work, and the like, the deficiencies of earlier training are

Drill-Work.

to be supplied. This applies to addition, subtraction and multiplication with equal force. Before the pupil is allowed to begin serious work with the pencil, the work with simple numbers should have reached the automatic stage. There is in mathematical work a process analagous to that of stopping to spell out words in reading. The two are alike despicable.

The teacher will observe how articles 89-92 prepare the way for article 93. The "first process" of page 111 should be repeated with other numbers until comprehended, then the pupil is ready for the "second process," which is only a shorter form from which the unnecessary elements have been omitted. A comparison will show the essential unity of the two as well as the advantages of the second. In general it may be said that "short cuts" should follow general solutions. The relations of the two should be shown by solving a problem, first by the general method, then by the short form, and then comparing the two.

Multiplication.

An apparent exception—and it is only apparent—to this principle appears in division. Nearly all books present "short" before "long" division. If the two were methods intended for the same problems, the points urged by some that the long method logically precedes the short would be well taken. But inasmuch as long division is used for one class of problems and short division for another, the order of the two is to be determined not upon some fancied relation of the terms long and short but upon the real relations of the two classes of numbers.

Division—Long and Short.

The pupil who has comprehended the "carrying" in simple addition can use short division with any divisor for which he knows the corresponding multiplication table. It is not with short division that pupils have trouble, but nine out of every ten teachers will tell of the terrors of long division. The remedy is not to be sought in reversing the order of the two, but in a more logical presentation of the more difficult of the two. If the following steps be taken in order, it is believed that much of the difficulty attending this subject will vanish:

A Remedy.

1. Solution of two or three problems properly belonging to the short division class, writing the work out in full (i. e.—by long division.)

2. Solution of many problems with 10, 11, 12, etc., as divisors, gradually increasing to larger ones.

3. Divisions with divisors less than 100 until the principles and methods are mastered, before trying the larger divisors.

Without one word about "abstract" and "concrete" numbers it will be possible to secure a recognition of both in the work of multiplication and division. Insist upon analyses that *mean something* and the recognition can be secured. "If one orange costs 2c, 36 oranges cost *36 times 2c*," never "2 times 36 which is 72c" as too many teachers permit it to be said. "If one orange costs 2c, 72c will buy as many oranges as 2c are contained times in 72c, which is 36 times. Therefore 72c will pay for 36 oranges at 2c each." Again, "If 72c is the cost of 36 oranges, each orange cost $\frac{1}{36}$ of 72c, which is 2c."

Concrete and Abstract Numbers.

All of the work implied in this paragraph is possible with third grade pupils, because accomplishment is the best proof of possibility.

Article 128 would make an excellent assignment for "to-morrow's lesson." Let a few of the lists be placed upon the board just before recitation time, then after comparison and corrections, the tests of article 129 can be deduced. The pupil should be drilled until he can readily name all the factors of numbers below 150, and can quickly apply the tests of divisibility to any number. Thus when he sees 120 he ought to be able to think $10\times12=(2\times5)\times(2\times2\times3.)$

The fractional idea will not be new to the pupil when he reaches page 145. With his previous training he will have no difficulty with pp. 145-9, and after these experiences, he will have no trouble with "numerator," "denominator," "mixed number," etc. So far as the pupil has dealt with fractions prior to this time, it has been in finding parts of integers, e. g.—in finding $\frac{1}{3}$, $\frac{2}{3}$, $\frac{3}{3}$, of 6 cubes, 7 cubes, etc. Now he begins work in changing, combining and separating fractions. The fraction becomes of itself a concrete number,—five-eighths mean five units of a certain kind (eighths), and seven eighths mean seven of the same kind. Eighths is here the "fractional unit," and while new eighth it selfsignifies the division of the unit into equal parts, a new unit is formed by this division and this new unit may be increased in number or divided into smaller units. It will sometimes help the pupil to solve such problems as the following:

Fractions.

7 eighths	7 eighths	7 eighths
3 eighths	4 eighths	3
5 eighths	—	—
—	3 eighths	21 eighths
15 eighths		

$\frac{1}{4}$ of 8 eighths = 2 eighths; 8 eighths ÷ 2 eighths = 4.

The pupil will need much oral work with fractions. Every type of reduction and each of the "fundamental operations" must be impressed through a multiplicity of varied exercises. White's book and other texts can be drawn upon for material. There is need for much "mental" or "oral" Arithmetic. The bane of much of the work of today is the lead pencil. Encourage the pupil to use his mind much, his pencil little. Of these oral problems simple analyses should be given. When the problem is solved with pencil it may be desirable to change the method of solution, but in any case the explanation should accord with the solution employed.

Opinions differ somewhat concerning the treatment of the subject of least common denominator. Our author must receive credit for his courage in divorcing least common multiple from least common denominator.

Least Common Denominator.

It is true that pupils ought to be able to discern by a sort of intuition the L. C. D. when the series of denominators involves only small numbers, and to this end there should be much drill with a great variety of fractions. But there will be many instances when "inspection" will not determine the desired denominator. What then? Two courses are open. One

is to teach that the L. C. D. is always the L. C. M. of the denominators and proceed to show a comprehensible method of finding this L. C. M. The other is to teach a process which no child will comprehend, and this our author does in both his books. Is not the former course preferable? L. C. M. is a subject permitting beautiful treatment in Arithmetic, and the principles and methods should be the same in Algebra. Why not present this method when needed? Resolve the numbers into their prime factors, and take the product of such factors as are necessary to produce a multiple of each of the numbers.

The arrangement of work in the solution of problems is important, but it must not be understood that there is but one good way of doing things. For example, the work in articles 167 and 170 may be differently expressed and yet be in good form. But let good form of some kind be insisted upon *always*. Make much of the sign of equality, but insist that it be not allowed to prevaricate. Observe the accompanying statement as a magnificent example of "how not to do it:"

"Form."

"$8\times\frac{2}{2}=\frac{16}{2}+\frac{1}{2}=\frac{17}{2}$.

There lurks in this form of statement a most insidious foe to good thinking. Its slimy trail can be traced through the entire mathematical work of many a pupil and many a school. Watch for it.

The "three cases" of multiplication and of division lose their terrors if each is presented inductively and receives sufficient time. Have recourse to the concrete to show the

effect of multiplications and divisions. If nothing better offers draw or cut squares into parts of proper size. *Do the thing*, then express it with symbols. For example, divide a square into 16ths; take $\frac{3}{16}$ two times, three times, etc., and *then* express the result as follows: Multiplication and Division of Fractions.

$2\times\frac{3}{16}=\frac{6}{16}$; $3\times\frac{3}{16}=\frac{9}{16}$; $4\times\frac{3}{16}=\frac{12}{16}$, etc.

Show that the fraction is multiplied by multiplying the numerator. Show also that in the problems above $\frac{6}{16}=\frac{3}{8}$, $\frac{12}{16}=\frac{3}{4}$, etc., and hence that dividing the denominator also multiplies the fraction. When the pupil realizes that $\frac{1}{2}\times 4$, ($\frac{1}{2}$ times 4) can mean only "$\frac{1}{2}$ of 4," that $\frac{1}{2}\times\frac{2}{3}$ means $\frac{1}{2}$ of $\frac{2}{3}$, etc., these "cases" of multiplication become very easy. Division of fraction by the integer can be presented with the divided square also. Separating 12 sixteenths into two, three, four, or six equal groups gives the data for such expressions as $\frac{12}{16}\div 2=\frac{6}{16}$; $\frac{12}{16}\div 3=\frac{4}{16}$, etc. If it be noted that dividing by 2 is finding $\frac{1}{2}$, by 3 is finding $\frac{1}{3}$, etc., these problems may be expressed thus:

$\frac{12}{16}\div 4=\frac{1}{4}$ of $\frac{12}{16}=\frac{12}{64}$, or $\frac{3}{16}$.

Thus two methods of division are reached. Division of integer by fraction should first be expressed thus:

$4\div\frac{2}{3}=\frac{12}{3}\div\frac{2}{3}=6$ and $\frac{3}{4}\div\frac{2}{3}=\frac{9}{12}\div\frac{8}{12}=\frac{9}{8}=1\frac{1}{8}$.

After these are thoroughly mastered show the "short cuts" as follows:

$$4\div\tfrac{2}{3}=\frac{3\times 4}{2}=6 \text{ and } \tfrac{3}{4}\div\tfrac{2}{3}=\frac{3\times 3}{4\times 2}=1\tfrac{1}{8}.$$

Complex fractions should be read and interpreted as divisions. As such their solution is easy.

Arts. 191-6 are highly important as a preparation for the future. Pupils must be able to determine the relation of one integer to another at sight. Thus: $8=\frac{8}{11}$ of 11, 8 acres $=\frac{8}{11}$ of 11 acres, and 8 twelfths $=\frac{8}{11}$ of 11 twelfths. Drill thoroughly upon the parts of the dollar and use these parts in problems (oral).

Parts and Wholes.

In Art. 196 avoid the author's unpardonable sin of saying "$\frac{5}{8}=320$, $\frac{1}{8}=64$," a thing which is as impossible as $1=2$. No amount of explanation can justify such statements. Say "$\frac{5}{8}$ of the number$=320$, $\frac{1}{8}$ of the number$=64$," and the like. The baneful effects of these misleading forms are known to every thoughtful teacher who has tried to teach percentage.

Decimal fractions should be begun with the writing of such fractions as $\frac{1}{10}$, $\frac{1}{100}$, $\frac{1}{1000}$, $\frac{8}{10}$, $\frac{8}{100}$, $\frac{8}{1000}$, and with a review of the Arabic notation, particularly its tenfold ratio of increase or decrease through successive orders. If, in such a number as 8888 the value of the second "8" from the left is one-tenth that of the first, of the third one-tenth that of the second, and so on, it needs no great mental effort to extend the principle to orders to the right of units. The necessity of the decimal point to fix the place of units will be apparent. Pupils will recall their former use of the point (pp. 85-6) and will confirm the new principle by observing that in such a number as $3.65 the "6" expresses tenths and the "5" hundredths of a dollar, or unit. The identity of the common and decimal fractions should be empha-

Decimal Fractions.

sized through each of the fundamental operations, and the pupil led to see the economy of the decimal system. Show that it is a saving to write $.4 \times .17 = .068$ rather than $\frac{4}{10} \times \frac{17}{100} = \frac{68}{1000}$; that $.4 + .17 = .57$ requires much less work than the addition of the corresponding common fractions, and so on. There should be much drill on the identity of such fractions as .3 and $\frac{3}{10}$, .03 and $\frac{3}{100}$, etc. The names and values of the first five or six decimal places should be so thoroughly learned that recognizing three or four or two decimal places, should cause the pupil to think instantaneously thousandths, ten-thousandths, hundredths, etc., as the case may be. Drill until pupils can read and write decimals rapidly and accurately. The effect of removing the decimal point to the right or left should be taught. Pupils should be taught to recover from the prevalent misuse of the "and" in the reading of numbers and taught its value in the joining of two kinds of numbers. The decimal termination "ths" should be used properly.

The conversion of decimals to common fractions and of common fractions to decimals should be mastered, both as to process and explanation Drill carefully on the matter of article 215. The correct pointing of decimal products and quotients is important. To this end use articles 221 and 227 and supplement with similar exercises. The pupil must be led to *see* the rules for himself.

"Accounts and Bills" can be made more real by using the names of home merchants and making the items of familiar articles at current prices.

If the suggestions of this course have been followed, the pupils of the second grade know many of the denomi-

nate units. The inch, foot and yard; the ounce and pound; the pint, quart, peck, bushel and gallon; all these are known, and, therefore, the teacher, at this point, will need only to classify and supplement. The child's knowledge of these units should be made real. Let him be made familiar with them, so that he will know the inch or foot when he sees it; the pound when he lifts it, etc. To do this he must have actual work with the units in both accurate and approximate measurement. All this, supposedly, has been done in the "number work."

Denominate Numbers.

In the reduction and applications of denominate numbers, our author is not his usual careful self. "Business methods" ought not to be slip-shod. Let us look at the problem in article 260.

(FIRST SOLUTION.)

1 yd. $=3$ ft.
7 yds. $=7\times3$ ft. $=21$ ft.
21 ft. $+1$ ft. $=22$ ft.
1 ft. $=12$ in.
22 ft. $=22\times12$ in. $=264$ in.
264 in. $+4$ in. $=268$ in.

(SECOND SOLUTION.)

7 (yd.) 1 ft. 4 in.
3 ft.
---
21 ft.
1 ft.
---
22 (ft.)
12 in.
---
264 in.
4 in.
---
268 in.

To the first and the preferable solution there can be but one possible objection—its length. The second endeavors to obviate this objection by an artificial device (the parentheses to indicate the numbers which become abstract multipliers). The explanations to the two solutions are alike, word for word, and are identical with the author's. The work is better than his.

When we reach reduction to higher denominations it ought to be remembered that the divisors are concrete, the quotients abstract. In the measurements of surfaces and solids, our author fails to apply what he develops in articles 268 and 273. A rectangular figure one inch long and one inch wide is a square inch. A rectangle 6 in. long and one in. wide contains 6×1 sq. in. A rectangle 6 in. long and 2 in. wide contains 2 times 6 sq. in. Hence for practical work we may write only: 2×6 sq. in. $= 12$ sq. in., supplying the rest orally. For problem one, article 271, we would write:

Rectangular Surfaces and Volumes.

$22 \times 5\frac{1}{2}$ sq. ft. = 121 sq. ft.; or
$5\frac{1}{2} \times 22$ sq. ft. = 121 sq. ft.

Similarly, for article 276, we would write, $8 \times 5\frac{1}{4} \times 3\frac{1}{2}$ cu. ft. = 147 cu. ft.; or we may use the form below:

$3\frac{1}{2}$ cu. ft.
8
28 cu. ft.
$5\frac{1}{4}$
147 cu. ft.

Both of these fit the author's explanation. In the measurement of both surfaces and solids, pupils will delight in making and solving original problems from actual measurements. Let them measure real floors, walls, ceilings, yards, boxes, bins, cellars, wood-piles, wagons, cribs, hay-mows, etc., make and solve their own problems, and exchange with other pupils.

ADVANCED ARITHMETIC—MILNE'S SECOND BOOK.

Milne's "Standard." Arithmetic will be introduced about the fortieth month. In the first 200 pages there is little that is new except the problems. These deal with larger numbers and are to that extent more difficult, but the principles remain the same. This is the time for mastery of principles and mechanical processes. The pupil who has studied the "Elements" carefully will have little trouble now aside from an occasional "hard knot" that has been allowed

to get in among the "review exercises." Those who have not studied the earlier work may be deficient in both knowledge of the principles and skill in their application. To such, the introductory oral exercises, the explanations, and the principles will be new, and the teacher must use them here as he does the corresponding material in the "Elements" for younger pupils. It will be necessary, therefore, in taking up each new topic—whether simple addition, factoring, multiplication of decimals, or any other topic—to ascertain just what each pupil knows of both principles and processes and to begin with the known in presenting the unknown. This applies to pupils who have studied the "Elements" as well as to those who have not. The first 200 pages of the "Standard" ought to give the pupil a mathematical polish, so to speak. Inaccuracies in operation, crudeness of expression, both oral and written, looseness and disjointedness of thought, bungling methods, slowness in work—all should disappear, leaving the corresponding virtues in their stead. Cultivate rapidity in the mechanical processes, but never at the cost of neatness. Encourage "mental" work and "short cuts." Draw on White's book and the "Elements" for oral exercises. Many problems formerly requiring pencil can now be solved without it. Practice the addition of two or three columns (White, p. 49), and the "short cuts" in multiplication and division (White, pp. 51-4; Milne, pp. 161-2). Place upon the board an addition problem of twenty numbers of twenty figures each. Challenge the whole class or school to add correctly. Change a few figures and renew the challenge with a time limit of so many minutes. Challenge the

school to ascertain the continued products of the numbers from one to twenty-six.

Some Important Matters.

There should be much rapid work with common fractions—changing to lower terms, to mixed numbers, to decimals, naming the least common denominator—and with decimals, both pure and mixed in converting to common fractions. Drill also in expressing various fractions in hundreths. Thus: .625 $=62\frac{1}{2}$, .3475$=34\frac{3}{4}$, .333$\frac{1}{3}$$=.33\frac{1}{3}$, .7$=.70$. The problems on pp. 128-9 should receive careful attention as preparatory for work in percentage. The aliquot and other much-used parts of the hundred should receive special attention. The problems on p. 163 are valuable and should be supplemented by similar ones on the buying and selling of live stock, the market reports in some daily paper furnishing ample material.

Practical Problems.

The work with fractional denominate numbers is largely new, but the principles are not. Such numbers should be treated as nearly as possible as integral numbers would be treated in the same problem. Emphasize the comparisons on p. 185. Teach the "business year" and decimals thereof. The value of the bushel in pounds and in inches should be studied and applied to wagons, cars, cribs and bins. The "Mo." column, p. 423, will furnish the equivalents in pounds. It must be remembered, however, that corn "in the ear" requires 70 lbs. of weight or about 3850 cu. in. of contents to constitute a bushel, and that 56 lbs. of shelled corn and 32 of oats constitute the bushel in Missouri.

For reasons satisfactory to himself, presumably, the author has stowed the metric system safely away in a quiet corner where many a pupil and many a teacher will have ample reason for overlooking it. The superiority of the metric system over our present systemless system is so great, its value in scientific work so apparent, that it is time for teachers to *believe* and to *teach* that it will be but a few years until all civilized nations will be using it. The men and women of twenty years hence will be buying and selling by the metric system. The teachers of to-day ought to be teaching it. No teacher of Arithmetic who passes this subject by unnoticed is doing his whole duty.

The Metric System.

In presenting the metric system to a class, let the basal nature of the *meter* be emphasized. Get some pupil to manufacture a meter-stick. Divide one side into decimeters and paint the alternate divisions. Divide another side into centimeters and paint alternate sections. Require pupils to make similar sticks and to use them in making numerous measurements. Use the results of the measurements in practical problems relating to lengths, distances, etc. Emphasize the Km., M., dm., and cm., and the conversion from one to each of the others. Drill upon the prefixes and their meanings and upon the conversion of common to metric units and the reverse, both accurately and approximately. After the length measures are mastered, apply them to surfaces and solids and drill as before. Go slowly and work thoroughly. For capacity measures, construct a wooden or tin measure one decimeter in each dimension. This is the cubic decimeter or *liter*.

Require the pupil to estimate contents in the appropriate metric unit and to test by measurement. When weight units are taken up do the same with them. Manufacture metric substitutes for the ordinary scale weights and use the new in weighing. Actual contact and use are necessary to the actualization of this knowledge.

The subject of longitude and time is so much dreaded that the teacher's part in an actual problem in a lesson is indicated in the following questions and directions. The lesson may be suggestive, but of course no teacher will copy it verbatim. Pupils' answers are omitted.

A Lesson in Longitude and Time.

Point toward the sun. Toward where it will be at noon. Will it move from one place to another? Why does it seem to move? Is it visible at all times? Why not? What is the shape of the earth? What will represent it? Come to the globe and show why the sun is not always visible. What do we call the time when the sun first appears? Show why it seems to rise? How often does it rise? Why? Locate our home on the globe. Represent sunrise at our home. Locate Denver. Can your friends in Denver see sunrise when we do? Why not? Locate Washington City. Can the President see the sun when it is sunrise here? Why? In which direction is Washington from us? Locate some other place east of us. Can the people there see the sun at our sunrise? In which direction is Denver? Name another place west. Can its people see the sun at our sunrise? Name some place east of Washington. Where does the sun appear to them when the sun is just rising at Washington?

Why? Then what is true of the eastern of any two places? And if the sun seems higher, what is true of the time? Then what is true of the time of the western of two places? Name some places that have earlier time than we. Later. Earlier time than New York has. Later. San Francisco. When it is noon here, what is true of the time at Philadelphia? At Honolulu? At sunrise here, what are people probably doing in London? In Tokio?

What time is it now? What is the time at Denver? How much earlier? Well, let us try to determine. How long from sunrise to sunrise? And during that time what has our town done? What has been the shape of its path? How many degrees are in that circle? How many hours are required to travel it? How many to travel half of it? How far do we travel each hour? In which direction do we travel? Where will we be one hour from now? And who will be here in the path where we are now? Find some place about 15° west of us. Then how much does Denver time differ from ours? Suppose it were 30° west? 45°? 90°? 35°? 66° east? 72° east? $7\frac{1}{2}$°? 5°? 1°? $\frac{1}{4}$°? (This is how many ′ ?) 1′? $\frac{1}{4}$′? Then a difference of 15° marks what difference in time? A difference of 15′ of longitude? A difference of 15″ of longitude? etc., etc. Then if you could compare your watch with that of a person 15° east of us what would you find? 15° west? 30° west? If you were to travel 30° eastward what would be necessary? 45° westward? 5° eastward? 15′ eastward? (Explain that there would be no change necessary to keep with the R. R. or "standard" time until the meridian of Wheeling, Buffalo, etc., is reached and that the time

for the 90th and the 75th meridians, etc., is made to answer for territory presumably about $7\frac{1}{2}$ degrees on either side.)

NOTE:—There is but one other important matter to present, (aside from the problems) and that belongs to Geography, rather than to Arithmetic, yet it will likely have to be taught here. This is computing the difference of longitude between two places. This can be presented by such questions as the following:

Name some place east of us. How far? Another. How far is it? Which is the farther? How much? How far apart are they? (Same for two other places east. Two west. For one east and another west. Same for places east and west of Greenwich.)

To understand the measurements of plane figures one needs only to master the rectangle. All others are to be measured by it. Therefore review from the "Elements" and drill upon the form of analysis with all sorts of practical problems—fields, lots, walls, ceilings, floors, windows, carpets, walks, etc., from the pupil's own measurements. If that absurd idea of "feet × feet gives square feet," is in the pupil's mind, get it out at any cost. Fight it out on this line if it takes all winter. This point gained, advance as follows:

Plane Surfaces.

1. The parallelogram: "A parallelogram 10 ft. wide and 46 feet long contains the same area as a rectangle of the same dimensions, hence the area equals 10×46 sq. ft., or 460 sq. ft. Prove the equivalency of the rectangle and other parallelograms by cutting paper forms.)

2. The triangle: "The area of a triangle is one-half that of a rectangle of the same base and altitude, (prove this by cutting paper), hence a triangle whose base is 30 ft. and altitude 12 ft. contains $\frac{1}{2}$ of 12×30 sq. ft. $= 6 \times 30$ sq. ft., or 180 sq. ft.

3. The trapezoid: "The area of a trapezoid is equal to that of a rectangle of the same width and whose length is equal to the average length of the two sides. Prove as above. Hence, if the two sides are 15 and 11 ft., the average length is $\frac{15 \text{ ft.} + 11 \text{ ft.}}{2} = 13$ ft., and the area of the trapezoid equal 10×13 sq. ft., or 130 sq. ft.

4. The circle: Present a circle and note circumference, diameter and radius. Measure various circles and determine relation of circumference and diameter. Thus $22 \div 7 = 3\frac{1}{7} = 3.14+$. Note the constancy of this ratio and its nearness to 3.1416. Solve the problems in articles 258-9. The area of the circle may be determined from at least three relations:

a. To the triangle (see article 259); $A = C \times \frac{R}{2}$.

b. To the rectangle (see Kennedy's Mathematical Blocks); $A = \frac{C}{2} \times R$.

c. To the square; $A = D^2 \times .7854$.

Of the three, the last is the simplest and the one preferred. To present it, require a 6-inch circle to be placed upon a 6-inch square and estimate comparative areas. The estimate will generally be about $\frac{3}{4}$ or .75. Give exact proportion, .7854. In other words, state that the area of every circle is .7854 of the corresponding square. This requires no more "faith" than the 3.141598 or 3.1416. Let the following serve as a model solution: Find area of a circle 10 feet in diameter. A 10-foot square contains 10×10 sq. ft. $= 100$ sq. ft. A 10-foot circle contains .7854 of 100 sq. ft. $= 78.54$ sq. ft.

5. Plastering, papering and paving which are only applications of the rectangle with a few added technical points explained in the notes.

Solids.

6. Regular solids, which are based upon the rectangular volume, e. g.:

A solid 1 ft. long, 1 ft. wide and 1 ft. high contains 1 cu. ft.

A solid 1 ft. long, 1 ft. wide and 4 ft. high contains 4×1 cu. ft. $= 4$ cu. ft.

A solid 1 ft. long, 6 ft. wide and 4 ft. high contains 6×4 cu. ft. $= 24$ cu. ft.

A solid 18 ft. long, 6 ft. wide and 4 ft. high contains 18×24 cu. ft. $= 432$ cu. ft.

These may be condensed into $18 \times 6 \times 4$ cu. ft. $= 432$ cu. ft. If the height, width and contents are given and the length is required, the written expression may appear thus:

$$6 \times 4 \text{ cu. ft.} = 24 \text{ cu. ft.}$$
$$432 \text{ cu. ft.} \div 24 \text{ cu. ft.} = 18.$$

The cylinder combines the circle and volume, e. g.:

If the diameter of a circular cistern is 6 ft., the basal area $= .7854 \times 36$ sq. ft. $= 28.2744$ sq. ft.

If the cistern is 1 ft. deep the contents are 28.2744 cu. ft.

If the cistern is 8 ft. deep the contents are 8×28.2744 cu. ft., or 226.1952 cu. ft.

Percentage can be robbed of half its terrors by the right presentation of the topics preceding it. Both common and decimals fractions are preparatory to percentage.

It is a case of proceeding from the general to the special. From the general treatment of common fractions, the pupil passes to the consideration of fractional parts of the denominations, tenths, hundredths, thousandths, &c., and when percentage is reached the work is further narrowed to decimals of the denomination hundredths. In percentage there are three problems of which the following are typical:

Percentage.

1. What is 7 per cent of 800?
2. 56 is 7 per cent of what number? Three "Cases."
3. 56 is what per cent of 800?

Each of these has its counterpart in both common and decimal fractions. In the former they read thus:

1. What is $\frac{7}{100}$ of 800?
2. 56 is $\frac{7}{100}$ of what number?
3. 56 is what part of 800?

In decimals they reappear as follows:

1. What is .07 of 800?
2. 56 is .07 of what number?
3. 56 is what decimal of 800?

By the time the pupil has had a satisfactory drill in finding $\frac{7}{100}$ and .07 of 800 he ought not to be troubled over "7 per cent of 800." And if he be able to determine the number of which 56 is $\frac{7}{100}$, or .07, he ought not to hesitate with the problem when it reads "7 per cent." The continuity of problem 3, through these three phases of arithmetical work is equally apparent. These problems, therefore, suggest the propriety of dwelling long upon these particular types of problems in both common and decimal fractions and of emphasizing the identity of the percentage

problems with those of fractions. The drill will fit the pupil to perceive the identity. Having grasped this idea, he is ready for its application to concrete problems, and there is no reason why the foundations for profit and loss, commission, brokerage, insurance, and the like, should not be laid. In other words, while being drilled upon the mechanical phase of finding $2\frac{1}{2}$ per cent of $1200 let him ascertain the sum gained at $2\frac{1}{2}$ per cent upon a house costing $1200, or his pay if he received $2\frac{1}{2}$ per cent of the proceeds for selling the house for another, or the cost of insurance at $2\frac{1}{2}$ per cent of the value. No pupil need hesitate a moment at any of these, and having solved them, when he reaches the formal consideration of profit and loss, commission and insurance, the difficulties will have been anticipated.

Pupils must be fortified against the too prevalent idea that percentage has to do with money only and that 10 per cent means "10 cents on the dollar" necessarily and universally. To accomplish this the teacher should give many problems in which the "base" bears such names as acres, days, bushels, miles, cattle, gallons, etc.

Preliminary to the work in percentage the pupil should receive a thorough drill in the rapid converting of the most frequently encountered percentage forms into their fractional equivalents. Thus $12\frac{1}{2}$ per cent$=\frac{1}{8}$; $6\frac{1}{4}$ per cent$=\frac{1}{16}$; 10 per cent$=\frac{1}{10}$, etc., and when he encounters these numbers in problems, let him be encouraged to select the best possible method of solution. For instance, should he be required to find $33\frac{1}{3}$ per cent of $182\frac{1}{4}$, he certainly ought to proceed at once to use $\frac{1}{3}$ as the equivalent of $33\frac{1}{3}$ per cent.

Another current weakness can be obviated by writing

in figures such exercises as these: One-fourth of one per cent; 25 times one per cent; one-half of one per cent; one half of 100 per cent; one-fourth hundredth; 25 hundredths, etc.

"Cases" and Formulae.

Very little should be said about "cases" and formulae. Many a pupil works as mechanically as a "nickle-in-a-slot-machine" and very much after the same order. Just as soon as he can make a guess as to the "case," the wheels begin to whir. It may not be necessary to shun absolutely the very word "case," the "B×R=P," etc·, but it is asserted upon the basis of repeated experiences that pupils may *master* the subject of percentage without hearing or using these terms at all, and it is asserted with equal positiveness that much of the life-destroying work in percentage is due to mechanical juggling with "cases" and formulae.

The following solution is reproduced from a popular work on Arithmetic as another illustration of "how *not* to do it."

10 per cent. =$300.
1 per cent. =$\frac{1}{10}$ of $300=$30.
100 per cent. =100×$30=$3,000.

Inasmuch as "10 per cent" means .10 or $\frac{1}{10}$, we are confronted with the startling statement that the abstract number with a value of $\frac{1}{10}$ is equal in value to a concrete number with a value of 300 ones. It is not permissible to explain that these equations mean something different. Equations ought to mean what they say. On the same ground we would object to letting "100 per cent equal the cost," "$\frac{5}{5}$ equal the value," and similar expressions. An

error analogous to these was pointed out in the discussion of common fractions. It is refreshing to turn now to the excellent solutions to be found in the "Standard," pp. 238-241, 243 and 249.

The meaning and the "general method" of interest are acquired in the "Elements," but the "six per cent" and other methods are to be presented now. The former should be taught well, as should a few of the "short rules." The pupil should not be overwhelmed with "methods," but let him learn to compute, readily and accurately by short and simple "methods," interest at our prevalent rates, 6 and 8 per cent. Having acquired several methods, he should strive to determine the one most suitable to the problem he has before him. There is no one universally "best method" for interest. To develop the power of determining the best method, let various methods be employed upon the same problem and the best chosen. Do the same with other problems and compare, endeavoring to determine where each method fits best. Important distinctions can be illustrated by computing upon $600, at 6 per cent for four years:

Interest.

1. The simple interest;
2. The annual interest;
3. The compound interest—payable annually.
4. The compound interest—payable semi-annually.

A comparison of results and the methods by which they were reached will be profitable. Having to account for the difference of results will lead the pupil to search out the essential likeness and unlikeness of the four prob-

lems. An air of reality can be given to the work in all of these types of problems as well as n those of partial payments and discount by giving the problems in the forms of notes. If the teacher will secure fifty blank forms and fill out as many notes, negotiable, non-negotiable, demand, joint and several, simple interest, annual and compound, etc., etc., his pupils arevery likely to comprehend, not only these several kinds of notes but the very meaning and nature of interest itself. These notes can be preserved and used year after year. In addition to these, the pupil himself should have training in filling out and endorsing notes in the various recognized forms. The interest calculations can be combined profitably with a review of former work. Let one boy buy of another a tract of land, a crop of wheat or a drove of hogs at current prices and in payment give an interest-bearing note upon which he makes partial payments. Then let them agree upon a date of settlement and determine the sum due. Or let the purchaser go to a third boy, a banker, and borrow the needed amount of money according to the principles of bank discount, which subject, by the way, may nicely precede and pave the way for true discount. In these and similar ways, written Arithmetic will be made "practical." and comprehensible. The same helpful turn can be given to "stocks and bonds," by organizing a company, securing a charter, issuing certificates of stock for various numbers of shares, declaring dividends, making assessments, "watering stock," selling stock, etc. Stocks.

Much of the difficulty in the way of comprehending

bond transactions is due to a lack of comprehension of the language employed. "Make haste slowly" is a wise motto here. The pupil should be initiated gradually into the difficulties of the subject. There should be a thorough drill upon the meaning of "U. S. 4's," "Mich. 5's," "5 per cent stock," "bought at 90," "at 112½" or "at 25 per cent below par," "8 per cent on the investment," "10 per cent dividend," etc. With these points comprehended through illustration and drill, this subject will lose most of its terrors.

Exchange.

In connection with exchange all ways of paying distant creditors may be discussed. On the day preceding the taking up of exchange let the class be asked to tell on the following day of all the ways in which they could pay for a bill of goods purchased from New York. A comparison of the purchase of a bank draft with that of a postoffice or express money order will be profitable. Let it be announced to-day that to-morrow John will again go to his class-mate, the banker, and purchase the draft which the latter will be expected to write. The class will be ready to criticise the methods. In exchange, as in all other applications of percentage, it is very important to be able to recognize the "base." Emphasize the fact that in simple interest, bank discount, stock certificates, bonds or exchange, this "base" in the face of the note, bond, draft, etc., and that all percentages are computed thereon. The only exception is in the case of true discount, in which the "base" is to be ascertained. Let it be remembered also that commission is computed upon the sum of money that passes from buyer to seller.

Compound proportion follows the mastery of simple proportion. No topic in Arithmetic has served as an intellectual opiate more frequently than this. It can be presented in such a way as to lead to a valuable type of reasoning, and again it may be—and too frequently is—presented so as to lead to nothing but a blind groping for answers. Simple proportion as well as work in fractions must give the pupil the ability to recognize instantaneously that as 2 yd. are to 4 yd., so is the cost of 2 yd. to that of 4 yd. That if 5 men do a certain piece of work in 6 days, 5 men in 8 days will do more, or 3 men in 6 days will do less, etc., etc.

Proportion.

The principle that ratio can exist between like numbers only can be utilized by arranging the data like this: (See problem 14, p. 322.)

men	da.	hr.	yd. l.	yd. b.	yd. d.
54	28	10	352	$2\frac{1}{2}$	$1\frac{1}{2}$
112	25	$8\frac{1}{4}$	?	$2\frac{3}{4}$	$1\frac{3}{4}$

The statement, solution and explanation appear below.

$$\left.\begin{array}{l} 54 : 112 \\ 28 : 25 \\ 10 : 8\frac{1}{4} \\ 2\frac{3}{4} : 2\frac{1}{2} \\ 1\frac{3}{4} : 1\frac{1}{2} \end{array}\right\} :: 352 \text{ yd. l.} : (x) \text{ yd. l.}$$

$$\frac{352 \times 112 \times 25 \times 33}{54 \times 28 \times 10 \times 4} \times \frac{5}{2} \times \frac{3}{2} \times \frac{4}{11} \times \frac{4}{7} = 419\frac{1}{21}$$

3

Explanation: The required term, the fourth, is to be "yd. long," hence 352 "yd. long," is the third term. Since 54 men dig a trench 352 yd. long, 112 men will dig a longer trench, and the result (so far as dependent upon the number of men) is larger than the third term, therefore the second is larger than the first, and the first couplet is 54:112. Since a trench 352 yd. long is dug in 28 da., a shorter trench will be dug in 25 da., the fourth term is less than the third, the second is therefore less than the first, and the couplet is written 28:25.

Since a trench 352 yd. long is dug when the workmen work 10 hours a day, when they work $8\frac{1}{4}$ hr. a day, the trench will be shorter, the fourth term is less than the third, etc.

Since the workmen dig a trench 352 yd. long and $2\frac{1}{2}$ yd. broad, if they dig one $2\frac{3}{4}$ yd. broad it must be shorter, therefore the fourth term is less than the third, and the second must be * * etc.

And so with the next couplet.

If the problem is treated in a manner something like that indicated above, the ordinary pupil *must* understand it. The study of involution should familiarize the pupil with the terms, power, exponent, square and cube, with the square of all the numbers to 12, (25 if possible), with the cubes of all numbers to 10 (or 12), with the expression of squares and cubes "in terms of their tens and units," and with the relation between the number of figures in any number and the number of figures in its square and cube. With these points mastered he is ready to begin the study of evolution. For the

Involution.

usual methods of finding square and cube roots, two so-called "explanations" are offered by authors—the one by means of squares, figures and cubical blocks ("geometrical"), the other by an analysis of the square of any number of two or more figures into its three, and of the cube, into its four constituent parts. The latter "explanation" explains, the former does not, it only illustrates a particular class of concrete problems. To say that we "double the root already found," "because we have to add on two sides of the square" or that we "take three times the square of the root already found," "because we have to add on three sides of the cube" is to talk nonsense with all except a few problems. The "geometrical explanation" may be a satisfactory illustration of these few cases, but as an explanation of square or cube root it is a most deceptive failure. The explanation for problem 2, p. 329, and the explanation at the bottom of p. 337 are universal in their application and really explain, which facts commend them. If it be said against them that they are algebraic, we may reply that they ought not to be too algebraic for a pupil completing the subject of Arithmetic, or if so, that inasmuch as they offer the only logical explanation of the work, the pupil ought then to solve by the rule and attempt no explanation at all.

Roots of Numbers.

To call the "geometrical explanation" an explanation is to practice deception. In cube root particularly, give a logical explanation, solve blindly by rule, or let the whole subject go over until the pupil reaches it in algebra, and the last is the most rational course of all. There is a mental discipline in the mastery of cube root prior to the study

of algebra, but the discipline arises largely from the extra exertion required to master a subject that is out of its logical place.

In Average of Payments and Average of Accounts, like Partnership, the fundamental principle is that of equivalency, and if all are to be studied, the rational thing to do is to study them in succession. The principle of equivalency appears in Partnership like this: "If A invests $800 for 9 months, his investment is the same as $7,200 for 1 month, for $9 \times \$800 = \$7,200$." In Average of Payments and Average of Accounts it arises like this: "By paying $300, 4 months before (or after) it is due, A gains (or loses) the use of $300 for 4 months, which is equal to the use of $1,200 for 1 month, for $4 \times \$300 = \$1,200$." This is certainly a better treatment than that on pp. 369-372 (Standard).

Time is what is sought and, therefore, the comparis n should be made upon that basis. Problem 1, p. 368, would be solved as follows:

$ 400 for 0 mo. $= 0 \times \$400$, or	$ 00 for 1 mo.
$ 300 for 2 mo. $= 2 \times \$300$, or	$ 600 for 1 mo.
$ 400 for 4 mo. $= 4 \times \$400$, or	$1600 for 1 mo.
$1100	$2200

$\$2200 \div \$1100 = 2$. Therefore, the average term of credit is 2 months.

The Savings Bank Accounts, p. 374, are worthy of study in view of the fact that it is only a question of time when our government will follow the example of Great

Britian, Austria, Prussia, France, Italy, and other nations in the establishment of Postal Saving Banks. By direct attention to this subject in our schools, we are making sentiment in favor of its adoption and preparing for its use when it is adopted.

The foregoing pages of this chapter contain only occasional references to White's Oral Arithmetic. This must not be construed as an intended slight to that valuable book. In the Course of Study, Chapter I of this volume, provision is made for articulating the oral with the written Arithmetic. In suggesting this plan, two thoughts have been considered. The first is that oral Arithmetic is too important and too valuable to be omitted from the school course. The second is that two recitations a day in Arithmetic require an amount of time for that subject entirely disproportionate to its relative importance. The result is a plan whereby the oral and written phases of the subject appear contemporaneously, without neglecting or making a hobby of either. The following suggestions were made by Professor White to a body of Missouri teachers:

White's Oral Arithmetic.

1. Read the note to teachers, pp. 3 and 4.

2. Let the pupils do the work, *and give them time to do it.*

3. The inductive (or development) work is the soul of the book and should be done *inductively, i. e.*, in the point by point method. Let the class answer the first question in a development exercise—be sure that all can answer it. Then give the second, and let it be answered in the same way; and so on, till the exercise is

completed. This, in almost every case, will secure the apprehension and comprehension of the *principle involved* —which, of course is the thing aimed at.

4. If at any stage in the development process a considerable number of pupils fail to answer one of the *sequent questions*, let the teacher give other questions like the one in the book, but, perhaps, simpler. The design is that the pupil's mind be led gradually and naturally from what it knows to what it does not know.

5. Emphasize the beginnings of ratio, pp. 30-34.

6. Call attention to "Special Cases," pp. 49-54; 86-87; and in the various review exercises throughout.

7. Call attention to the unique presentation of composition and factoring, beginning on p. 55.

8. See the easy method of explaining the division of one decimal by another: problems 16, p. 90; 14 and 15, p. 111.

CHAPTER III.

LANGUAGE AND GRAMMAR.

GENERAL PRINCIPLES AND SUGGESTIONS.

LANGUAGE, more than any other subject of the school course, is a part of the warp and woof of a child's being. He may have little use for history, civics, numbers or geography, but if he live in a community with his fellow-men, he will use language. Daily, almost hourly, he will communicate with others. This constant use, beginning with the plastic period of infancy and extending to the close of life, serves to sink the roots of habit deep down into the fibers of being. Thus habit becomes, in reality, "second nature" to him. This formation of habits begins with the child's first attempts at speech, and, therefore, he takes with him on the first day of his school life the effects of at least three or four years of daily repetition of the commonest language forms. Fortunate is the teacher if this novice in school affairs hails from a home where good language is the rule. But such homes are exceptional, sad to say. In the majority of cases the pupil will bear in body and mind the marks of three years or more of daily use of incorrect and inelegant

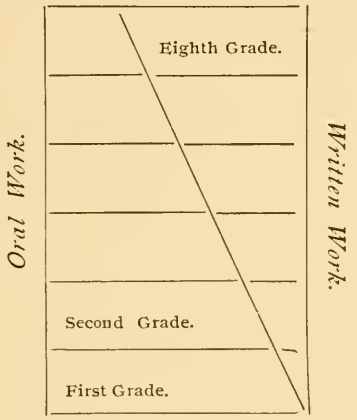
Language and Habit.

modes of expression, and the scars will be all the more deep and enduring because of the very plasticity of childhood. Since every year of further use will serve to deepen and broaden these marks, it behooves the teacher to make their continuance as brief as possible. Let the work of uprooting begin at once. This is one instance in which the tares and wheat are not to be allowed to grow together unto the harvest. Uproot, trample out the tares now growing, and look to it that as few as possible be allowed to creep in through subsequent sowings.

Oral and Written Language.

Notwithstanding the fact that the average person speaks a thousand words for each one that he writes, it remains true that with many teachers "language teaching" is associated exclusively with written work. But let it not be forgotten that language may be oral as well as written, and that while the two forms are related and inter-dependent, proficiency in one does not necessarily imply proficiency in the other. The one-sided view referred to above has resulted in a dual defect in many a language course. These "sins of omission" are as follows: first, a partial neglect of the oral phase of thought expression in all grades; second, the consequent omission of all language culture below the third grade, or the time of beginning text-book work. Both are serious omissions. The general purposes of language are "to get and to give"—acquisition and expression—and let it not be forgotten that much of the "giving" must be oral. Therefore, let us have a cultivation of the power to clothe thought in oral dress, with ease, with vigor, and with fitness. The continuity of

these two phases of language work through the grades from the first up, as well as the relative degree of attention they should receive has been crudely illustrated in the ac-



companying schedule. This diagram is intended to convey the idea that there is to be no cessation in either kind of work, but the predominant oral phase of the primary grades is largely displaced by the growing written element.

Language involves two elements—meaning and expression—and the latter exists for the sake of the former. The thought side is the important one and the one worthy of emphasis. There may be a mechanical juggling with content-less words, but it has no place in legitimate language work. The first requisite, therefore, is something to express—ideas. The possession of the *idea* should lead to the desire to express it, and this, in turn, to the realization

Thought and Expression.

of a need of language. In this we have the logical series underlying language work. Give the pupil something to say and a sufficient motive for saying it, and he will usually, though not necessarily, find the means.

The conclusion from the foregoing propositions is that the teacher should first help his pupils to acquire thought —pure, clear and useful thought. Its sources are many— objects, events, persons, books, pictures, etc. That his thought may possess clearness and distinctness, the pupil must learn to observe carefully, to listen attentively, to read reflectively. The thought, when acquired, must be expressed. This expression should be correct and fluent and, at the same time, characterized by simplicity and naturalness. Some there may be whose natural state seemingly is characterized by inaccuracy or halting or bombast. If so, such should be born again into the kingdom of better things. A "second nature" should be acquired, and old things should pass away. Expression should be "natural," but the good in expression should be the natural.

One of the prominent traits of childhood is the tendency to imitate. This tendency is no less strong in linguistic than in other domains. Prompted by an innate impulse, the child imitates what he hears as well as what he sees. Good models, therefore, are important. Many of the models from which the pupil's linguistic possessions are acquired are the current expressions of the home. If the home is one of refinement and culture, the models will possess the same qualities. The teacher can hope much, wish

Imitation.

much, but he can *do* little toward improving these home influences. The models set in the school-room, however, are largely within his control. Let them be the best possible. The language of the teacher should be free from slang, vulgarism and obvious inaccuracies, and so far as it is defective, the teacher's aim should be to make it better by study, reflection and practice. But the language of pupils is imitated by other pupils, hence the preventive value of an earnest endeavor to improve the general linguistic tone of the school-room. Correctness and elegance of expression are *caught* quite as much as *taught*. On the other hand, it must be admitted that inaccuracy and inelegance are as contagious as any other evil which the school-room helps to disseminate. And sometimes a single vigorous-minded pupil can inoculate an entire school with the microbes of slang.

There is another class of models—those of literature. Too frequently do teachers overlook the influence of the pupil's reading upon his modes of expression. The young reader who lives in a world in which thoughts are invariably clothed in elegant word-habiliments will *catch* the spirit of his environments and think and talk in elegant language. The linguistic atmosphere, like the moral, leaves its mark upon those who live in it. Consciously and unconsciously may one obtain from what he reads a training in the correct and vigorous use of language.

As has been implied already, much of the teacher's work must be corrective. There will be numerous errors in the language of the pupils in the recitation, on the play-ground, in written work. Many of them will be the

habitually incorrect forms imported from the home. Not only must they be corrected, and this in a manner that will not discourage or antagonize, but the pupil must be set on guard to prevent the repetition of the mistakes. He must understand that incorrect forms will not be accepted. The teacher who succeeds in informing his pupils of the most frequent errors in their speech and of the corresponding correct forms, who inspires those pupils with so strong a desire to shun the wrong as to keep them continually on the alert to prevent a repetition, has given his charges a fair start toward victory. Only by the combined efforts of teacher and pupil can the crudities of early childhood's speech and the inaccuracies to which children of all ages are prone be eliminated. Only by constant, patient, zealous effort will the haven of fair speech be attained. Criticism by teacher and classmates will be in order, but what is desired above all things else is criticism by the pupil himself. A reflective "self-consciousness" must be awakened. The pupil must be led up to the point of *desiring* to speak and write correctly.

Criticism by Teacher and Pupil.

If the school-room errors in the use of English should be noted and classified by the teacher, they will be found to fall into a very few classes. Mispronunciations, confusion of participles with tense-forms, of nominative with objective forms of the pronouns, and of singular with plural verb-forms, use of double negatives and colloquialisms—these nearly exhaust the list.

Therefore, a well-directed and continuous campaign against these expressions should be conducted. Work

should be carefully planned to involve the correct forms corresponding to these inaccuracies. When a mistake is made, see that it is replaced by a correct form. If the pupil knows the correct form, require him to produce and use it, otherwise it must be supplied by another pupil or by the teacher. At any rate, the pupil must *use* the correct form, otherwise the time spent in criticism is wasted.

Overcoming Evil with Good.

The principles apply with equal force to written and oral expression. Written work must be examined and the errors marked. Nothing conduces more to habitual slovenliness and disorder than the impression that written work is never examined and that a folded paper, with anything or nothing within will answer all requirements. Teachers are responsible for what they *accept* as much as for what they *give*. Better far is it to have less writing, have it examined, criticized and corrected, than to have much written in a careless, indifferent way. As far as possible, the pupil should be his own critic—a question from the teacher, an interrogation point or some other suggestive symbol serving to direct the pupil's attention to the weak point. Frequently, composition work may be placed upon the blackboard and the class become critics. Criticism, in all cases, should be directed to those points which the pupil may reasonably be expected to regard in his usage. After the criticisms are all in—whether of flagrant violation of simple rules or of the higher matters of good style—the pupil should be expected to re write, profiting by the suggestions received. The rewriting should be regarded as a privilege rather than a

Criticism and Improvement.

penalty. This view may be secured, if the teacher be tactful in presenting the matter to his class. Language work should be food, not "medicine" to the pupil.

After a second writing and a second criticism, the composition may be transferred to a "composition book" and preserved. If the date of writing be attached to each, the pupil will, in later years, derive both pleasure and profit from an occasional inspection of the steps by which he climbed. These composition books may be purchased for a few cents or manufactured from suitably-ruled paper. Occasionally a composition may be written on a topic used some months before, without re-reading the earlier exercise until after the latter is completed.

For indicating mistakes and suggesting improvements, a simple system of symbols is desirable. Variations of the following have been used by many teachers, placing the symbol in the margin, and underscoring the error if desired:

C—mistake in the use of capital.

P—mistake in punctuating.

S—mistake in spelling.

G—mistake in grammar.

Wd—wrong word.

( )—re-write. (Enclosing the part.)

Wr—careless writing.

Par—new paragraph.

?—inquire about this.

A simpler form has been recommended, consisting of an oblique line (blue), through an error in spelling, punctuation, or use of capital, a line under a misused word, and parentheses about anything that needs reconstruction.

Sometimes older pupils may be trusted to criticise the work of a lower grade. This will be good for the examiner and for the teacher, but the teacher should not fail to inspect at least a part of the work.

A COURSE IN LANGUAGE.

Language work is many sided. It embraces training both direct and indirect. It includes much work of the text-books, but much additional work not found therein. In the following pages the aim will be two-fold—to suggest means of getting the most good from our adopted texts and to indicate lines of supplementary work. Without attempting to separate the two, we append hereto an outline of what is thought to be a fairly comprehensive course in language.

A Language Course.

1. *Constant use* of language, oral and written, leading to fluency and ease of expression. This begins with the beginning of speech and ends with life itself. It is given to the teacher to direct the current of thought and expression through several years of the early life of his pupils and this opportunity should result in the acquisition of a fluent and easy use of a rich and well-selected vocabulary.

2. *Friendly criticism* from teacher and classmates, leading to the eradication of error. This also, is a feature of the entire course, beginning with the simplest grammatical forms and leading up to the more abstruse elements of rhetorical finish.

3. *Copying* sentences, gems, parts of reading lessons and the like, from which much of the mechanics of com-

position will be acquired. This work begins with the ability to write and may be continued with profit even to the fifth or sixth grade. Correct copying necessitates close observation, and thus another benefit is obtained.

4. *Memorizing* choice selections of literature. Andrew D. White has said that he is profoundly thankful to those early teachers who led him to store his memory with the beautiful gems of literature. Many a less noted person has ground for the same gratitude. Aside from the memory culture is that higher gain, the enrichment of the mind with the finest things in literature. From near the beginning to the very close of the language course there should be this storing in memory of suitable selections. A selection to be suitable should express a complete thought-unit, should reflect some universal experience and should be such as will grow on the learner as he grows older. Thus to memorize "Lo, The Poor Indian" without the setting is to miss the "beauty of the whole." "Paul Revere" contains nothing that is universal, nothing especially worthy of memorizing. Compare with "Abou ben Adhem" or "Something Undone" and the absence of the universal elements will be noticeable.

5. *The mechanics of composition*—punctuation, capitalizing, paragraphing, abbreviations—beginning with the copying work and extending through all the written work of the pupil until these points no longer need attention—i. e., until their correct application becomes habitual. There is so little of this whole matter that it can be introduced gradually and yet effectively, so that the pupil acquires a mastery of the mechanical side of composition

without a formal study thereof. The pupil ought to attend to much of this mechanical work in the same automatic way in which he dots his i's and crosses his t's—and habits are formed by repetition.

6. *Description* of objects, pictures, persons and places, proceeding from the very simple to that which is highly complex. Description may be either oral or written. The former may be begun before the child has learned to write. As soon as friendly relations are established between him and his teacher, he can be induced to "tell about" familiar things. Soon he can be led to *observe* and then to tell. Whether the lesson be one in reading or numbers or nature-study, it is also a lesson in language. There will be constant opportunity for oral description. Nor ought this phase of the work to cease when the pupil learns to write and acquires the power of written description. An occasional exercise in oral description is not amiss for older pupils. But after the pupil learns to write, there should be much of the written description. It may be of a simple object like a top, or a complicated mechanism like a locomotive, an air-pump or a sewing machine, of the teacher's desk or Westminster Abbey, of a microscopic view or a mountain, of a picture from the wall, magazine or text-book, of well-known persons, or of places familiar to the writer. With such a wide range of materials as a basis and with the principle that "every lesson is to be a language lesson" as a guide, it is clear that this descriptive work may be continued through all grades of school work.

7. *Narration* of events present and past. The

foundation for this line of work is telling what things are doing. From telling that "James is coming," it is an easy transition to a series like "James is coming;" "he is standing;" "he is opening his book;" "he is reading;" "he is closing his book;" "he is sitting down." From the telling of a thing *while* it is occurring, there is no difficulty in passing to the telling as if it were past. And from the single event past the child can be led to tell of the series past. And here open up the illimitable fields of the past so far as the pupil's knowledge can penetrate. What he has done, what his friends, animal and human, have done, what others, noted and obscure, have done—all these may be narrated in a style varying from the simplest to the most ornate. Consequently this phase of language work is suitable for all grades beginning quite early in the first.

8. *Dictation*, suitable for any grade after the pupil has learned to write. The principal uses to which this kind of exercise can be put are the correction of work already prepared or the taking of new work to be corrected later. Dictation can be made a valuable aid in the mechanical phases of composition.

9. *Reproduction*, oral and written and adapted to any grade. The child should be trained to gather thought from a single reading or hearing, and to reproduce it in connected form. But let it be remembered that the thought of a selection may be reproduced quite fully without repeating the original words. This form of language work can be used nicely in connection with the Reading and History both regular and supplementary. There ought

to be no difficulty in finding material for this kind of work. Reproduction, however, must not be allowed to usurp the place of original thought. Each has its place in language work, but the very ease with which selections can be read and reproduced may influence both teacher and pupils to look with undue favor upon the reproductive work.

10. *Supplying ellipses* in sentences. These sentences are to be written upon the blackboard and blanks left indicating the place where the omitted word or phrase is to be supplied. Such exercises are of value in leading to a discrimination between correct and incorrect forms, between words similar in sound but unlike in meaning, and between words almost synonymous. These lines of work are illustrated below. In the first group the pupil is directed to supply the proper forms of *see*; in the second to use *to*, *too* and *two* correctly; in the third to insert *enough* or *sufficient* as may be proper.

I——President Cleveland. Have you——him? John —— ——two presidents, etc.

——whom did you speak? Which——shall I bring ——you? Shall Charles come——? etc.

Although he never had——money, yet it was evident that he had——to meet all reasonable demands, etc.

11. *Weaving contexts* about isolated sentences. This will prove profitable anywhere between the third and sixth grades. Select a sentence from the middle of a well-written paragraph and let the pupils supply a setting, or write the first sentence of a paragraph and require the pupils to complete it.

12. *Completing Unfinished Stories.* Read to the pupils

a portion of some new story. Have it discussed if need be, and reproduced to show that it is fully in mind. Then allow pupils to complete the story according to the individual likings. Often there will be profit in allowing other pupils to criticise these endings. Old copies of the "Youth's Companion," "St. Nicholas," and the like will be helpful here, and stories can be found for almost every grade.

13. *Making up stories* from pictures or from suggestions. The value of pictures in this connection is great. Such pictures as were found in Miss Hyde's primary book and such as appear in almost every issue of the better class of juvenile magazines will be of immense value. Suggestive directions may call forth imaginative productions. For example: "Write a story of a little boy seven years old and his little five year old sister who started out to see the circus." Or: "Tell the story of a little fish that disobeyed its mother and played about a fly." Or, for older ones: "Write an account of a man who has been living on a lonely island for fifty years and now returns to the United States."

14. *Writing letters*, business forms, advertisements, telegrams, notes, receipts, news items for local papers, etc. This will be "practical" and interesting work. A weekly "paper" may be issued. with some of the older pupils as editors. The paper may be made a resume of the news of the week as written up by the pupils, the best being selected for "publication." Skillfully managed, this device may be made productive of much good. Every editor will testify to the need of such work.

15. *Paraphrasing and amplifying* selected passages. For these purposes suitable selections may be made from the reading matter of pupils or teacher. Sometimes the two lines of work may be combined, but not usually will it be desirable to unite them For paraphrasing, poetry is particularly suitable. Such poems as Evangeline, Snow-Bound, Deserted Village, Enoch Arden, and many shorter ones may be utilized occasionally for this purpose. The amplification may be of a descriptive sentence, a proverb, or any expressive quotation. Paraphrasing is closely related to "reproduction," and, therefore, is available for nearly all grades. Amplification ought not to be attempted until pupils have developed considerable power of thought.

16. *Using the dictionary.* The "dictionary habit" is one of great value to any student. Many students never learn how to use the dictionary, and many more never form the *habit* of doing so. Every school-room wherein are pupils above the primary grades should be supplied with one of the standard dictionaries, and every pupil above the primary grades should own a small dictionary. Spelling, pronunciation, etymology, meaning and use of words are to be found in the dictionary. From it also may be drawn material for the study of synonyms and paronymns.

17. *Composition-writing.* This is an important type of language work. The descriptions and narratives referred to above are included under the broad term "composition." But there is another phase of the composition process, the more formal and frequently more dreaded one,

which usually bears the exclusive title "composition." The common dislike for the composition exercise is generally due to the air of formality in which the whole subject is enveloped. When the pupil is assigned a subject that is neither entirely above nor entirely below his plane, and one about which he knows or can know something, he will lack that unwholesome dread of the work. Much of the antipathy to composition-writing is of the same nature as the dread of letter-writing so common among adults, due largely to the mere fact of being apart from the accustomed round of experience. What is usual and habitual is easy. It is the line of least resistance. The conclusion from these premises is evident. Make it usual and habitual to express thought both orally and in writing and neither will be dreaded.

The earlier compositions will consist of few and disjointed sentences. But practice in writing and the study of selections with "quality rather than quantity" as a motto, will gradually develop the power of connected discourse. Without "making a hobby of language," a pupil who passes through such a course as we have outlined ought to attain a fair degree of proficiency in the use of English. A recent writer, Prof. J. B. Wisely, has presented the following as his ideal, yet fears that it is set too high, a fear that ought to be groundless: "*I wish my pupils, as a result of their composition work, to be able to take a subject, think the thought of it carefully and accurately, organize that thought about a purpose, and express it accurately and appropriately in a paper of printable English, neat in form, properly punctuated, capitalized, paragraphed,*

and with no misspelled words." Every teacher of children ought to be able to say, "my sentiments too."

Early in their composition-writing pupils ought to discern that certain thoughts hang more closely together than others do. Thus in writing about the horse we may tell "how he looks" and "what he does," and thus the child will be led to appreciate the purpose and method of paragraphing. At first this division into paragraphs may be secured by a few broad questions; as for example, What is a wagon? What is the shape of the wheels? What are the kinds of wagons? What are wagons used for? Later on the pupil alone or with the aid of the teacher works out an outline, such as the following:

Wagons
1. Parts and their uses.
2. Kinds and their uses.
3. How and where made.

*Coal
1. Qualities.
2. Uses.
3. Where and how obtained.

Steel
1. Qualities.
2. Uses.
3. Kinds.
4. How made.

The Camel
1. Appearance—size, shape, color, covering.
2. Principal parts—description and uses.
3. Habits.
4. Uses.

*The form of these outlines was suggested by Prince's "Courses and Methods."

The Tea Plant

1. Appearance—size, shape, color.
2. Principal parts—root, stem, leaves, etc.
3. Where found.
4. Use—preparation for.

Lincoln

1. Birth—time, place, parentage.
2. Home and early influences.
3. Boyhood and youth.
4. Education.
5. Public career.
6. Domestic life.
7. Death—when, how.
8. Character.

St. Louis

1. Location.
2. Size.
3. Divisions.
4. Principal streets.
5. Points of interest.
6. Chief industries.
7. Educational advantages.
8. Municipal organization.
9. History.

A Trip to Jefferson City

1. Time and place of starting.
2. Route taken.
3. The intervening country.
4. Objects and incidents of the way.
5. Destination
   1. When reached.
   2. How received.
   3. General impressions.
   4. Later impressions.
   5. Places visited.
6. Length of stay.
7. Return.

Railroads
1. First building—when, where, why.
2. Construction—how, cost.
3. Extent.
4. Organization.
5. Benefits.
6. Ownership.

Benefits of Railroads.
1. To those who furnish labor and materials
2. To employes—number, wages.
3. To produc'rs of
   1. Grain.
   2. Live stock.
   3. Manufactured goods
   4. Minerals.
   5. Lumber.
4. To new countries.
5. To travelers.
6. To publishers.
7. To governments.

Cruelty to Animals.
1. Frequency—tendency of the times.
2. Cruelty to horses—examples.
3. Cruelty to dogs.
4. Cruelty to birds.
5. Cruelty to other animals.
6. Effects on the person.
7. Best means of prevention.

These outlines are merely typical. Instead of "Wagons" the teacher may substitute Watches, Printing-presses, Sewing-machines, Pumps, Steam-engines, Cars, Boats, Plows, Houses, Stoves, Books, etc. For "Coal" he may put Salt, Iron, Gold, Water, Wool, Marble, Asbestos or Petroleum. "Steel" belongs among manufactured articles along with Wine, Rubber, Ice, Glass, Lumber, Flour, Sugar and Thread. The "Camel" may

be displaced by the Horse, Ox, Sheep, Dog, Elephant, Cat, Pigeon, Whale, Hog, Seal, and the like. With the "Tea Plant" might be grouped the Coffee, Banana, Lemon, Apple, Grape, Corn, Wheat, Hemp, etc. Lincoln is but one from a long list of names eminent in the world's history and from this "honor roll" many other names may be chosen: Grant, Stonewall Jackson, La Fayette, Whittier, Irving, Major Andre, Pochahontas, Florence Nightingale, Edison, Webster, Gladstone, Greely, Franklin. For St Louis and Jefferson City may be written the name of any town in Missouri or elsewhere. Somewhat like "Railroads" may be discussed Banks, the Telegraph, etc. Many topics cannot be outlined according to a model but each must be considered independently.

18. *Analysis* of selections from standard literature—not hair-splitting grammatical dissection, but an attempt to determine the thought of the author, his purpose in expressing it, and the method by which he attempts to accomplish his purpose. This will necessitate some sort of outline of the selection. Afterward, this outline may be used again as a basis for a composition.

19. *Technical grammar*, for the sake of its training in analysis, its help in determining correct forms, and its explanation of the correctness or incorrectness of any expression.

20. *Figures of speech* and the *simple qualities of style*, which will be worth more to the pupil than would unlimited "word dissection."

DE GARMO'S BOOK.

It is believed that by the beginning of the third year the pupil will be able to take up and and use De Garmo's book. Part I can be mastered easily in one year if the pupil has had any language-training during the two years preceding. Should this preliminary work have been neglected, it will be best to defer the use of the text-book for a time. The pupil needs a limited amount of drill in the use of oral and written language forms before beginning the formal text-book work. The nature of this preliminary work has been indicated in the preceding pages, but a brief recapitulation is given below:

De Garmo Part I.

1. Much use of language under the sympathetic guidance of a teacher who realizes the importance of habit and the ease with which it is acquired. This language is to be the expression of *thought*—the enthusiastic thought of minds alive with interest in their fellows and in the world about. There will be facts to communicate, discoveries to reveal, descriptions to give, and stories to narrate. Under the guidance of the capable teacher the child acquires habits of easy and correct expression of thought.

2. Copying from written or printed forms and from dictation, according to ability of pupils.

A Resume.

3. Writing simple sentences which have been previously expressed orally.

4. Reproduction, oral and written, of reading lessons or stories which pupils may have read or heard.

5. Sympathetic correction of errors in all these forms of work.

When the text-book is taken up, it should be used with that same good sense which characterizes the intelligent teacher at all times. Text-books are the working tools of school life. No true teacher lashes himself hand and foot to any mast. The teacher *may* be an artist or an artisan, but if he attempts to follow any author unreservedly the title of artist must be denied him. In De Garmo's book are many excellent exercises. But the artist teacher will find places and ways of departing from the ways of the book. In some instances it will be to omit, in others to supplement. At all times let it be realized by teacher and pupil that text-book pages are not a measure of success or failure. Improvement in the use of the mother-tongue is the criterion of progress. This it is that the teacher's eye should be seeking to discern. The exercises of our text-book will prove helpful to this end, especially when used in the light of the author's valuable hints as to the purpose and method of the several lessons. Supplementary work similar to that of lessons IX, XVI, XXIII, XLVII, XLVIII, may be provided in abundance. "Æsop," "Robinson Crusoe," and other books of stories may be drawn upon for work similar to lessons XX, XLVI, LXXX. These exercises may be handled in such a perfunctory way as to render them valueless. On the other hand they may be so conducted as to be of very great value. Let the incidents be stated in answer to the teacher's questions. For example (lesson LXXX): What was one thing Robinson Crusoe lacked? What did

Following the Book.

he make instead? What did he do each morning? After his return what did he do? What did he shoot one day? How did he feel? What did he see? How did he then feel? Etc., etc. After going through the exercise in this way, the teacher may ask questions or give directions that will require several statements, as "How did Robinson spend his time?" Or, "Tell about Robinson and the kids," etc. In this oral work good language must be required. After the thought has been mastered and expressed orally, it should be expressed in writing. This can be done out of class, but must be submitted for criticism.

Requirements from the Teacher.

For the right presentation of the work required by De Garmo's book certain things are necessary. Of these, two are specified: a knowledge of mythology, literature, and history, and a trained imagination. Unless one possesses these, his teaching will be barren indeed. It will be a desert land through which he will conduct his "language" classes. The teacher who doesn't enter into the spirit of Robinson Crusoe, Ulysses and Lincoln, will make a flat failure of the language lessons relating to them.

Exercises in description (see lesson L) may be multiplied. In such work the thought of lesson XLIX should be applied.

In this grade, the oral phase is quite prominent. The oral language of pupils must be closely watched by both teacher and pupils. This is not limited to the recitation of the language class. "Every lesson is a language lesson" to the extent of requiring the use of language and

providing opportunity for impressing good forms of speech and uprooting bad ones. Reproductions of stories, simple descriptions, accounts of the reading lesson may be put into oral form and may be of great value. Sometimes this oral work may precede the written, sometimes may be used independently thereof.

Oral Work.

Beginning with this grade and increasing in difficulty with the development of his powers, the pupil may be trained to think sentences into appropriate settings. Thus such a sentence as "Once a year they returned to their former home," or "The postman handed me a box this morning" may furnish the basis for an interesting paragraph from each pupil. Here the individuality of the several pupils will appear. Give rein to the imagination in such work. Insist upon two things only—that the pupil do his own work and that it be his best.

"Part II," the fourth year's work, may be supplemented in much the same way as has been suggested for "Part I." The stories, both historical and legendary, may be supplemented by others of like or unlike nature. "Boys (and girls) who have made themselves famous" may be talked about and written about — thus introducing the pupil to an interesting phase of history. The comparison of adjectives, lesson X, may be pushed farther. A more thorough drill on the work of lesson XXVIII will be desirable. Exercises 72, 75 and 84 go well together, and the uses of *shall* and *will* need even further elucidation. Lesson XLVII may be extended indefinitely. The treasure houses of Greek, Roman and Indian history and mythology

"Part II"—Fourth Year.

have been unlocked and their contents given to us in innumerable volumes. All these are accessible to teachers of the present day. Lesson LIV may be followed by a study of *love* and *like*, *think*, *expect* and *guess*, *teach* and *learn*, *stop* and *stay*, etc. In addition to the text-book requirements, there should be further work in oral and written discourse. Reproduction of stories and of reading lessons, incorporating isolated sentences into contexts, description of objects and actions are within the scope of fourth grade work. In his written work, let it be assured beyond doubt that the pupil has not only something, but a clear-cut and very definite something, to say. The prerequisite for this is something definite in his thought. Require him to know the story definitely before trying written reproduction; to *see* objects and actions clearly before describing them.

The fifth year's work comprises Part III (or Parts III and IV,) of DeGarmo's book. The first is but a continuation of the work of the year preceding, with a near inductive approach to the confines of technical Grammar. Part IV approaches nearer still. What a compliment it is to our author that a pupil is *inducted* into technical Grammar without realizing the fact! Under the old regime there was no uncertainty upon this point. The event was usually suggestive of a plunge bath or the filling of a tooth. DeGarmo's book, therefore, forms an excellent basis for Patrick's. If desired, Part IV may be disposed of briefly since the same topics come up in the later book. But the author's suggestions and method are so helpful that the time neces-

Fifth Year—Parts III and IV.

sary for a more careful treatment of the twenty-eight lessons of this section of DeGarmo's work can be spent here with profit. The work of this part will not be difficult for one who has had what precedes in DeGarmo's book.

Supplementary work will be necessary in connection with Part III and desirable for Part IV, if that division is extended throughout the sixth year. Work similar to lessons IX, XXI and XXXI, may be added. Time may permit and the teacher will doubtless desire to add to the "Fables and Fairy Stories," to the selections from the "Life of Lincoln," the "Adventures of Ulysses," "Stories from Rip Van Winkle," and the science studies in Chapters III and V of Part III and throughout Part IV.

LESSONS IN GRAMMAR.

It is believed that a pupil properly trained in the use of his mother tongue—and this does not imply an undue amount of attention to the subject or the neglect of anything else—will be ready for lessons in Grammar at the beginning of the sixth year. This is sufficiently early to satisfy the most ardent advocate of technical grammar. On the other hand, the "language enthusiasts," after seeing the pupil safely through such a course as we have outlined, including both DeGarmo's admirable text and much supplementary work ought to be willing to relinquish him for a few minutes each day to the grammarians. In this way the pupil acquires both the art and the science—the former by practice at his most impressionable period, the latter after

A New Book—Patrick's.

his reason has had a sufficient development to enable him to comprehend a science. In choosing this mean between the extremes of "all grammar" and "no grammar," we are, doubtless placing ourselves on safe ground. It will be observed, however, that the "grammar" of Patrick's book is far from being an encyclopedic aggregation of definitions, diagrams, rules and exceptions. Nevertheless the main facts of English Grammar are clearly set forth and abundantly illustrated from the rich mines of English and American literature. These illustrate the points of technical Grammar—they illustrate also the best products of the English mind. Whether created or quoted—illustrations should be something more than a mere formalism.

Superintendent Patrick claims that the "*exercises* are a marked feature" of his book. He may well be pleased with them. A pupil who thinks his way through both or even one of the Patrick books will *know* more of English than if he had the 300 pages of some of the more formidable texts "by heart."

Two years should be given to Patrick's first book. This will afford ample time not only for doing well the work of the book, but also for a continuation of the work in composition. This composition work will resemble that of the preceding years, but will be of increased difficulty. It ought also to be free from many of the errors and crudities of the former work. There ought to be a finished composition from the pupil twice a month to the end of his school course.

In the main, the plan of the "Lessons in Grammar" is obvious, as the author claims. On the other hand,

there seem to be some slips that indicate a lack of logical coherence, e. g., on page 10, where there are exercises upon "the complement of a copulative verb," although the pupil does not learn what a copulative verb is until he reaches page 40, and for the "complement of a copulative verb" he must wait until he arrives at page 43. This defect can be obviated by the omission of the objectionable exercises on page 10. Again, the definitions and presentation of infinitives and participles on pages 49, 50, 87 and 88 of the "Lessons" are completely at variance with what we find on pages 22-25 of the "Higher English." This discrepancy cannot be explained as the enlarged view of an advanced over an elementary text. The differences are fundamental. If the participle "has the properties of a verb and adjective or verb and noun" in the higher book, it ought to do so in the lower. The gerund, which in the elementary book, is a "participial infinitive," recovers completely and is a well-behaved participle in the higher—a reformation we are glad to record. A similar unsatisfactory treatment of mode is noticeable. In the "Lessons" (page 52), "there are three modes—the indicative, imperative and the subjunctive." On page 59 of the same book is a synopsis which may be construed as implying *six* modes—the three just named, together with the "conditional, potential, and the obligatory"—while on page 38 of "Higher English" we are told that "there are four modes—the indicative, the potential, the subjunctive and imperative." We might infer from this that there are "three modes" of classifying modes. Our suggestion is that our author be taken at his

Some Points to be Watched.

best. Neither he nor any other thoughtful teacher would have us present things as contradictory as these are, even though the contradictions are mostly between the successive books of a series. We may expect an elementary text to lack the fullness of a high school text, but a *science* does not contradict its teachings to children when it attempts to instruct adults. All things considered, we hesitate not to pronounce the view of the higher book on these contradicting points much the more satisfactory. Its treatment of the infinitive, the participle and mode is clear and logical. We commend it, therefore, for this reason, for the *teacher's* guidance.

By taking two full years for the completion of the elementary book, ample time will be found for the introduction of much supplementary work in connection with each topic taken up. The good teaching of almost every book requires this supplementary drill work. State law prohibits the use of any other book as a text, but the earnest teacher will find in other texts much available material of great value and this may be used. "Exercises" should be multiplied until the successive topics are well mastered. The needs of the pupils must determine the amount of supplementary work. There may be a great deal of work based upon pages 61-64 and 74, and that of pages 166-192 may be extended almost indefinitely.

A few words of caution will not be inappropriate here. First, if pupils have not had much drill in "language" work, endeavor to introduce a great deal of it in connection with the Grammar. Proceed very slowly with the Grammar, and be not easily discouraged. Next, see that the "exer-

çises" represent the pupil's own work. Take care that the work is not done *for* the pupil and that he does not inherit illustrative sentences from a preceding class. Constant watchfulness backed up by a wholesome sentiment is the surest preventive.

Patrick's second book, the "Higher English"is largely a continuation and expansion of the "Lessons in Grammar." In many instances it is but little more than a review. In others the two are contradictory, as has been shown. In the last third of the book, however, the author enters new territory and acquaints the pupil with figures of speech and style. Copious exercises are introduced to impress what has been presented. It would be well could every young person against whom the doors of the "High School" are closed, be permitted to have at least such a taste of the well of higher English as in offered in this book. Life's horizon would be greatly broadened, even with no further study.

CHAPTER IV.

GEOGRAPHY.

GENERAL DISCUSSION.

Before the teacher is prepared to grapple with the *how* of Geography, he should have devoted considerable thought to its *what* and *why*. In other words, the question of methods in Geography does not concern him until he has determined what constitutes Geography and why the subject is taught.

What is Geography?

Signifying etymologically "a description of the earth," Geography has been construed by some as an encyclopedic accumulation of facts about locations, heights, distances and the like, all resting upon a basis of maps and printed descriptions. To quote the expressive language of Prof. King, "Geography has too frequently been treated as though it was the science of the *where*, map-drawing its chief glory, and the memory of words its only means of acquisition." Casting aside this erroneous conception, we are confronted with a multitude of other views, each differing as its possessor's power of interpretation, his "apperceptive power," differs. To one "the earth" is merely the local neighborhood projected into the unknown. While to another it signifies a great

world-organism energized by those forces that make history possible and help to make it what it is. The pupil begins with the "neighborhood" view; he should grow toward the broader. More and more clear it must become to him that there is a "soul of the world," a great inner unity of plan and purpose like that which pervades the human body and makes it more than hand and foot and eye—in short, makes it an organism. It is needless to add that this higher conception of the earth should be the conception of every one who undertakes to teach Geography. To conceive the subject as a series of map-descriptions is to miss its true purpose altogether.

The danger of this broader view is that it will lead to an undue extension of the sphere of the Geography. It must not be allowed to encroach upon the domains of Geology, Physics and History. Each of these has its own sphere. Geography, in short, must not attempt to cover the whole circle of human knowledge.

What then is Geography? As a working basis for teachers, there is probably no better definition than this of unknown authorship: "Geography is the science of the earth as an organism, affecting and affected by man's institutions." As such it touches without encroaching unduly upon the whole circle of natural and social sciences. It gathers facts from all these sources and relates them into a science—the science of the earth inhabited.

The Answer.

Geography, when properly comprehended and properly presented by the teacher, is highly valuable. Even when it was taught solely for the sake of information to be

gained, it was considered worthy of study. Now with our enlarged conception of what Geography is, comes an enlarged conception of the purposes of its presentation. Geography properly presented to the child-mind awakens its powers into activity, giving them increased vigor from their activity and offering excellent opportunity for their training. The imagination is aroused and developed. Judgment receives excellent exercise. The conceptive powers are expanded. Imagination gives originality; judgment becomes "common sense;" conceptive power means breadth of mind. A study that results in a marked development of these powers certainly has a high culture value. And it should not be forgotten that the culture value of Geography far outweighs its information value. But is geographical study to impart no knowledge? Is the student to learn nothing? Most assuredly he is to learn something, to learn many, many things, but the most important is the use of his own mental powers.

Purposes of Teaching.

Current methods of geography teaching are not perfect. Some of the defects are very pronounced. The following are of frequent occurrence:

Defects.

1. Making Geography too largely a memory study.

2. Making locality too prominent.

3. Mistaking map study for Geography study.

4. Failing to actualize through the imagination what is gleaned from maps and descriptions.

5. Too little comparison.

6. Failing to discern and emphasize what is of importance.

7. Artistic map drawing.

"Humanity, not locality," should be the aim of geographical study. Instead of burdening memory with a mass of insignificant details concerning heights, distances, products, boundaries, etc.,—matter that will soon be forgotten except by a few—how much more rational to give the time to a few typical regions and use these as a basis of comparison for all others, discriminating between those that have significance in human progress and those that are merely facts. A *mere* fact, with nothing but its truth to commend it, has no place in a school geography. It may be true that a certain peak is 15,086 feet high but what of it? Would not human history have been the same had that peak been 15,087, or even 40,000 feet high? How large a percentage of our pupils can advance any reasons for Chicago's marvelous growth or have an adequate conception of the resources of "imperial Missouri"? Too much attention is given to maps *as realities.* How many, like the lamented Nye, are disappointed in not finding Indiana yellow? How many think of the Amazon as a broad black mark, Washington City as a star, and Yellowstone Park as a rectangle in the corner of the map of Wyoming? Is not teaching defective when the means become and remain the end in the learner's thought?

Map-drawing should be an important adjunct of the work in Geography. It is possible, however, to make it too prominent and to give it a trend that is not wise. When a very considerable portion of the time allotted to

Geography is absorbed by map-drawing, or when the map-drawing degenerates into "artistic" attempts to vie with map-printing in variety of coloring and nicety of detail, it is another case of a good servant that has developed into a bad master. To compel helpless Missouri children to reproduce from memory the minute irregularities of a *line* purporting to be at best, only an approximate representation of the coast of Maine or the sinuosities of the Tombigbee river, is both morally and pedagogically sinful. It is not denied that the child should know that the Maine coast is much more irregular than that of Florida, that Europe has better harbor facilities than Africa or South America, or that the Tombigbee makes its way slowly and tortuously through the alluvial plains of Alabama, but these are quite other matters.

Artistic Map-Drawing.

What then are the legitimate uses of map-drawing? The answer is to be found in a study of its effects upon the student's mind. Properly directed, map-drawing gives a comprehensive grasp of relations, binding the isolated and fragmentary together into a whole. It develops the power to seize upon that which is salient and to give expression to it in symbolic form. Finally, map-drawing may be made to impress upon the memory the things worth the while. To the teacher himself it has additional value as a means of illustration. Every teacher ought to be a "chalk-talker."

Legitimate Results.

How can map-drawing be made to subserve these useful ends? Not by the methods commonly employed. These benefits cannot be claimed for the prevalent type of map-drawing. A practical kind is the rapid, yet neat, off-

hand sketching for illustrative purposes—to show comparative areas, routes of commerce, causes of climatic conditions, belts of production, general direction of slopes, strategic points in war, etc. The ability to put into an off-hand sketch the location, boundaries and slopes of the Mississippi basin, a summary of one's knowledge of South America, or the objective points of the French and Indian War reveals more than a half hour's written examination can do. The pupil who is trained to do such work *neatly* and *rapidly* is deriving a practical value from his map-drawing. Much, therefore, should be made of the off-hand sketch-map. Of the artistically-drawn map Redway has said: "It is certainly not an essential element in the education of the average pupil."

Map Sketching.

There are other forms of map-*making* that have value. The "progressive map," one that grows day by day as the pupil progresses in the study of the political or physical features, productions or history of a continent or country, is of interest and value. The map may be made by the teacher at the board or by the pupils during or after the recitation, or by both teacher and pupils. If the teacher will prepare a card-board outline, the correct outlines of maps for pupils may be prepared with very little labor, and yet a correct outline be secured for the pupil's work.

The Progressive Map.

To show physical features several methods are employed—sand, paper-pulp and putty being used for raised maps, and color, shading or contour-lines for relief maps. The raised maps may be made of sand or paper at little

expense. The putty map will hardly justify its cost. The other two may be made useful in connection with such physical maps as those in the books of the Rand-McNally series. In making the sand-map the following steps may be observed: Physical Maps.

1. Sift a thin layer of sand over the board, mark out the outline with a pencil, take away the outside sand with a brush.

2. Sift over the great highland regions in proportion to height.

3. Pour sand through a little funnel to represent the mountains and watersheds.

4. Trace the rivers and lakes with the pencil point. For the pulp-map, crumple a poor quality of newspaper, put it into a jar and cover with boiling water. After a few days the fiber will have disintegrated and the pulp may be applied to an outline map traced upon a muslin cloth which has been tacked upon a board of convenient size. With no undue waste of time, pupils can prepare physical maps in colors or by shading. The latter plan is used in our adopted text. The representation by contour-lines is the most accurate of all in the hands of a skilled engraver with sufficient data before him (See Professor Marbut's map of Missouri in the second book, Rand-McNally.) A map of this kind is the most valuable of the physical maps, but it is too difficult for construction by pupils.

One of the first duties of the teacher of Geography is to ascertain what basis of knowledge his pupils bring to the work. No normally constituted child can live in the world for six years without learning something of the ele-

ments of Geography—of land, water and atmosphere, and the forces acting upon and through them. Some children know much more about these things than others do, but all children, whether from city or country, know something. Rain and snow, frost and dew; heat and cold and their effects; succession of day and night and of the seasons; sun, moon and stars; wind, clouds, smoke; boiling and freezing of water; some plants —their care, growth and uses; some animals and minerals and their uses; means of communication and travel; occupations and manners of life; manufacture of certain articles; races of men, religion, government and education; city and country; some of the units of land and water surface—hill, stream, pond, creek, river; soil, sand, rock, clay, mud and gravel; descriptive terms like round, long, green, blue, up, under, hot, cold, hard, soft, smooth, rough, high, low, wet, dry, light, dark, large, small—these are some of the things about which even children of six will have ideas, more or less incorrect and indefinite, it is true, but yet sufficiently akin to the genuine to serve as a basis for geographical work. How interesting it should be to the child to begin his study of Geography with these partially familiar matters and have unfolded to him the mysteries of the unknown. And how dull and depressing, on the other hand, to attempt to initiate the pupil into this new field through the door-way of map-drawing. This is the period in which the child's observing powers are keenly active—his reason, as yet, practically dormant. Hence the subject-matter and the learner seem admirably fitted for each other. Geography is suited for observation and constructive work,

The "Known."

and the child mind is never more at home than when engaged with these things. Eye, ear and hand are the agencies through which the throbbing energies of childhood go forth. Wise teaching utilizes all of them.

"Observation work" should have a prominent place in the presentation of Geography, especially in the primary grades. The child should be led not only to see what has hitherto escaped his observation, and might always do so, but also to interpret what he sees. Children can reason about these things much more than is commonly supposed. From the basis of the "known," the child is led gradually into the unknown with such an easy transition that all the naturalness of the home life is preserved, and, unrealized by himself, he becomes a thoughtful interpreter of the natural phenomena that he has probably learned to love already. This is certainly a better plan than tearing the child away from Nature's works and setting him to interpreting a kind in which he can have little or no interest. The teacher himself, to do this work successfully, should be a loving and thoughtful student of nature, otherwise it will be a case of the blind leading the blind.

An Objective Basis.

Having ascertained just what the children know, the teacher sets about directing them into the unknown. He leads them to observe the greater heat of summer and associate it with the greater altitude of the sun and the longer days. He leads them to know that winds are air in motion, resulting from a difference in temperature between two places. The tea-kettle and the laundry furnish the key to evaporation and condensation and thus to clouds,

rain, hail and snow. From rain and snow it is not difficult to lead to soils, moisture, vegetation, springs and streams.

From the Known to the Unknown.

The pitcher of cold water is an illustration of the formation of dew. The land forms of the neighborhood will likely include the plain, the hill and valley, and from these the important subjects of slopes is reached. The slope leads to a consideration of the stream in connection with which there will be opportunity to consider such terms as bank, mouth, current, bed, bar, tributary and, possibly, falls, island, peninsula, isthmus, cape, bay and gulf. The conception obtained by contact with these natural forms far surpasses in clearness and correctness any that can be obtained from definitions, descriptions or even pictures. While studying the rains and streams, it will be easy to consider the changes wrought by these agencies—the cutting, carrying and filling —changes that occur by every road-side and are repeated on a larger scale in every stream. From this point it is but a step to the consideration of soils—alluvial, native or drift—and the abundance of vegetation on each. Plant and animal life may be studied with interest and profit. Many new things can be learned about the most common plants and animals, if the teacher have the wit to direct and to impart wisely. Bishop Vincent has said: "A child of five ought to be able to recognize all the trees about his home by the differences in their leaves." As a matter of fact, what percentage of adults can do this? The answer to this question shows how far short of our possibilities we are falling. And what is true of leaves is true of a hundred other lines of thoughtful observation. The truth is that

the education of the present is still too suggestive of that of the Dark Ages, when youth were educated for another world than that in which they were living. The statement of Bishop Vincent, which has been corroborated by the testimony of hundreds of others, reveals what a child of five can do. Can we be accused of setting our mark too high in asking the teachers of our state to train our children in using close, accurate observation on those things that they meet almost every hour of their lives?

THE COURSE IN GEOGRAPHY.

FIRST YEAR.

I. *The observations* of this year are necessarily simple in character, but they should gradually increase in complexity. Some of the things which pupils may be led to observe and to talk about are:

1. Weather—rain, snow, frost, dew, clouds, wind.
2. Sun—rising, movement, setting, shape, light, heat.
3. Land—hill, slope, top, roads.
4. Water—rain, creek, river, pond, wave, well, spring.
5. Temperature—hot or cold, of air, water, metals, —freezing, thawing, melting.
6. Fire—fuel, warmth, ashes, smoke.
7. Soils—black, red, clay, sand, gravel, loam, dust.
8. Plants—kinds, places, sizes, uses, colors, growth.
9. The apple—size, colors, parts, growth, uses.

10. Growth—of seeds planted, of crops, trees, animals, self—food.
11. The horse—size, colors, uses, food.
12. Men—color, occupations, food.

II. *Terms* of various kinds, all necessary to correct conceptions, are to be learned as far as possible through the child's own activities:

1. Position—above, below, beside, in front, behind, corner, middle, between—by actual placing.
2. Distance—near, far—by actual comparison.
3. Direction—right, left, east, west, north, south. East and west can be learned as the direction of the sunrise and sunset; north as the direction facing, with the right hand to the east and the left hand to the west, and the south behind. Mark them upon the floor and drill in many ways.
4. Size—large, small, tall, low, broad, slim—by comparison.
5. Form—round, square, three-cornered, pointed, oblong, straight, crooked,—by study of objects.
6. Color—black, white, brown, red, green, blue, yellow, orange, violet—by means of decomposed sunlight and natural objects as leaves, flowers, fruit, etc.

III *Reading stories* to the children from such books as will interest them in good reading and in Geography as well.

SECOND YEAR.

The observations of this year become still more seach-

ing and accurate. Those relating to soils, weather, plants, animals and occupations particularly, are susceptible of great extension. The pupil is becoming better and better acquainted with his home, the earth, and the reading of such a book as "The Seven Little Sisters" will give him vague notions of regions far, far away, which belong to the same earth as his, but the world is, as yet, a world without form and without boundaries.

THIRD YEAR.

This year's observation work should deal with such fundamental conceptions as hill, valley, plain, cape, peninsula, stream, river, lake, island, etc.,—in which the aim should be to lead to a comprehension of what is vital in each. The sand table will aid in impressing the results of observation. Trips to the blacksmith's shop, the post office, grocery store and the like can be of immense value in many ways. Practice reading and consulting the thermometer and making records of the weather.

The third year ought to impress upon the pupil the idea of boundary—limited area—of desk, room, yard, farm district (or town), township, county and state—and the idea of representation—mapping. The first representation, "picture," upon the child's slate may be of his book or box, an object smaller than his slate. An attempt to represent his desk results in a difficulty—the size is too great—and a solution—reducing the scale. In some schools systematic drawing presents the reduced scale earlier than this, but generally it is the Geography teacher who has the obstacle to sur-

Map Drawing.

mount. A distorted drawing with one dimension dis-proportionately reduced will develop the idea of proportion. Then measuring the desk, e. g., one foot by three feet, represent it one inch by three inches, one half-foot by three half-feet, one two-inches by three twos, etc. The school-room, the yard, etc., can be reduced in the same way. Tell the pupil that maps are nearly always hung with the north uppermost. Let him hang some of his maps and note the other directions. Teach that in nearly all maps the top is north. Apply this. In maps of room, yard and district, locate the most important object—stove and desk, school-house and well, school-house, roads, streams and some residences. In the township, county and state maps avoid details and start with the pupil's home. He has heard the county and state names. Help him to clear up his vague notions somewhat. Do not try to teach too much. It may not be out of place to note that our state is one of many making up a great country, the United States, which is, in turn, a part of a great body called North America. But anything more than this is unnecessary here.

The pupil can now read for himself. Suitable books for the several grades are listed in the appendix.

FOURTH YEAR.

The pupil now prepares to study Geography on a broader scale. He is now to rely upon others for his information. He receives a text-book as a store-house from which much of this material can be drawn. If the work outlined for the preceding years has been done, the

pupil is ready for the first lesson of the Elementary text—upon the surface and shape of the earth. Should the teacher find that the fourth year pupils have not received any preliminary instruction, he should be very careful to introduce much supplementary work, of the kinds indicated, as he advances. An earth bounded by the covers of a text-book is too small for an intelligent pupil or a successful teacher. We shall proceed on the supposition that the work suggested has been done or will be done.

The following suggestions are made in regard to the use of the adopted text:

Use it as a reading-book, i. e., read it and then prepare to tell in original form what has been read. Supplement lesson 1, by telling of Columbus and Magellan, by referring to the appearance of ships approaching or receding (see figures in lesson 7), and by introducing the globe to illustrate the form of the earth and of the horizon. (A croquet ball, or an orange and knitting needle will answer almost as well as an expensive globe.) Gather materials from the fields for lesson 3. In lesson 5, teach that vapor of water and carbon dioxide are also in the air, and emphasize their importance. Write a composition upon the uses of air. Be sure that lessons 6 to 11 are learned out of doors. Many a pupil has learned "entirely surrounded," etc., etc., and waited for years before comprehending. For such as isthmus, delta, etc., find the nearest possible illustration in the vicinity and use the molding-board, imagination and pictures. See that these fundamentals are comprehended. Ask why water flows and rain falls. Do not fail to illus-

Suggestions.

trate the points of lessons 12 and 13. Pupils will surely know the cardinal points. If so, add the semi-cardinals in lesson 14. In lesson 15, teach also eastern and western, land and water hemispheres from the globe. Supplement lessons 24 and 25. This is a good place to study some of the industries. Approach the idea of government from the rules of the school-room. In lesson 26, pause to map the room, yard and district, if not already done. A small black ball with a chalk dot upon it will show the value of meridians and parallels in locating. The divisions of the continents should be grasped as solids, not mere surfaces.

FIFTH YEAR.

The year may begin with a brief review. For lessons 29 to 34 use the globe with maps upon its surface. Such lessons as 33 and 34 and preceding ones like 8, 16, 18, etc., will be helped by pictures from books and magazines. Dwell long on lesson 36. Train the pupils to *interpret maps*, both physical and political. Work much with open text-books. Locate your home on the maps of pages 66 and 73 and other places relatively. Point toward them. In connection with lessons 39, 40, and many others, there may be interesting composition work. Write upon the history of a breakfast, the building and uses of a railroad, the raising of cotton, etc. Along with lesson 45 study Missouri from the supplement, question much upon surface—elevation, slopes and soil—with books open. Compare the new at all times with what is already known. Study the pictures and bring in others. In studying productions of England, Germany and the like, have pupils to bring articles from those countries.

SIXTH YEAR.

With the sixth year the pupil begins the advanced book of the adopted series. In plan, the book is similar to the Elementary—a general presentation of geographic facts, followed by a study of the several geographical divisions. Some have contended that the first fifty pages are too difficult for sixth grade pupils, and in consequence, have begun with the map-work about page 50. This plan argues a double misconception—first, of the importance of the descriptive element and second, of the author's plan. How one can read the preface of the work and run so counter to the spirit we can hardly conceive. To follow the order indicated is like planting corn and doing the breaking afterward in order to avoid driving over the plowed ground with a planter. The key to the whole volume lies in these first fifty pages. The manner of treating them will reveal whether the teacher is an artist or a day-laborer. For a proper presentation of these pages the teacher must have *mastered* them, both as to subject-matter and method.

Plan of the Advanced Book.

The following suggestions are offered in connection with some of the lessons of this year:

1. Emphasize "due north" and south in the lesson on direction. Too many think that San Francisco is southwest of the north pole.

2. Be sure to use the globe in the work relative to longitude.

3. Use a card-board disc to separate the illuminated from the dark half of the earth's surface. Choose a dark afternoon and use a lamp in the lessons on day and night

and seasons. With an inclined axis, a lamp and the disc, it ought to be easy to show why nights vary in length and seasons change.

4. Illustrate the points of the lesson on the use of maps by turning to some of the maps of the volume. Read the "note to teachers," p. 19.

5. In the lesson on Atmosphere, the following illustrations will help: A tube filled with *water* in the absence of mercury; down, or paper streamers to show air currents about the windows or near a fire; the air near the wall back of the stove is warmer than that nearer the stove; use a stone and a vessel of water to show comparative absorptive and radiating powers.

6. Combine the lessons on "Weather" and the "U. S. Weather Bureau" with accurate observations on the weather. Procure actual weather maps for study.

7. As such topics as earthquakes, iron, coal, petroleum, salt, cotton, oysters, sponges, and the like are reached, they may be studied from other sources and used as a basis for language work.

8. Add to the work on the great "commercial cities." Study one thoroughly and, taking it as a type, compare others with it.

9. Read of the Indians, their schools, etc.

10. In connection with p. 86, study the Missouri supplement, bringing out physical regions, soil, slopes, resources, railroads, etc.

11. Seek after reasons. "As long as the teacher's questions all begin with *what?* or *where?* he is calling upon his pupils for nothing but the exercise of memory,

and they are acquiring information. When he asks *how?* and *why?* his teaching becomes scientific, he is calling for an exercise of judgment and reason, and his pupils are acquiring wisdom and power."

12. The following outline is offered as a guide in the study of a grand division and, with some omissions, in the study of countries. Prof. King, who ranks as a prince among teachers of Geography, advocates the topical method of study for all grades, choosing simple topics for beginners. One of the chief advantages of the method is its stimulation to original thought and investigation. If not used to excess it is a great improvement upon the "question and answer" method of study and recitation. Below appears the suggestive

OUTLINE.

I. Position.
   1. Hemispheres—northern, southern, eastern and western.
   2. Latitude, longitude, zones.
   3. Boundaries—land, water.

II. Shape—outline map.

III. Size—relative, absolute.

IV. Surface.
   1. Highlands
      - Mountain Systems
        - Ranges.
        - Slopes.
        - Direction.
        - Peaks—volcanoes.
        - Heights.
      - Mountain systems.
      - Plateaus.
   2. Lowlands
      - Valleys.
      - Plains.
        - Interior.
        - Coastal.
   3. Put on progressive map.

V. Drainage.
  1. Water-sheds.
  2. River Systems
     - Source.
     - Course.
     - Length.
     - Uses.
     - Tributaries.
     - Peculiarities—comparisons.
  3. Lakes
     - Salt or fresh.
     - Inlets, outlets.
     - Value.
  4. Putting on map.

VI. Political Divisions
- Names.
- Location.
- Capitals and chief cities.
- Soil.
- Drainage.
- Productions.

VII. Natural Divisions
- Waters
  - Oceans.
  - Seas.
  - Straits, etc.
- Land
  - Peninsulas.
  - Capes.
  - Islands.
  - Isthmuses.

VIII. Climate
- Kind
  - Temperature.
  - Winds.
  - Moisture.
  - Healthfulness.
- Causes
  - Latitude.
  - Altitude.
  - Winds.
  - Currents.
  - Mountains.
  - Slope.
  - Moisture.
  - Nearness to sea.

- IX. Productions
  - Fertile and sterile regions.
  - Kinds
    - Mineral.
    - Animal.
    - Vegetable.
- X. Life
  - Vegetable.
  - Animals.
  - Human
    - Races.
    - Population.
    - Occupation.
      - Agriculture.
      - Mining.
      - Manufacture.
      - Commerce
        - What?
        - How?
      - Fishing, etc.
    - Language.
    - Manners and customs.
    - Education.
    - Religion.
    - Government.
- XI. Imaginary journeys
  - For pleasure.
  - For trade.

XII. Comparisons throughout.

SEVENTH YEAR.

The work of this year is a continuation of that of the latter part of the sixth. The methods and guiding principles remain the same. Judgment as exercised in comparison is always paramount to memory as employed in reproducing.

If time will permit, near the close of the year, take a general review dealing with such topics as the following:

Distribution of heat.

Uses of winds.

Ocean currents.

Regions of rainfall and deserts.

Distribution of soil and vegetation.

Forests and grassy plains.

Food plants—cereals, tubers, fruits, spices, beverages, nuts, sugar-producers.

Medicinal plants.

Clothing plants, dyes, etc.

Distribution of animals, minerals, metals, men.

Types of nationality.

Occupations.

Commerce.

Cities.

GENERAL SUGGESTIONS.

In closing this chapter a few suggestions general in character are offered. In the main, they refer to points not brought out in the preceding pages.

1. *Newspapers and magazines* are full of valuable geographical material—both pictures and reading matter. This can be preserved until needed. Pupils can be enlisted in the search for such material.

2. *Collections,* either "loan" or permanent, ought to bring together much useful illustrative material.

3. *Imaginary journeys* add interest and profit. "To the Klondike," "Three months in Europe," "A trip to the Holy Land," are good illustrations.

4. *History* and *current reading* should aid and be aided by the work in Geography. Cultivate the habit of locating places in reading.

5. *Draw,* not only maps, but other illustrations.

6. *Panoramic views,* real or imaginary, are useful.

7. *Opening exercises* may occasionally take a geographical trend.

8. *Advertising matter* frequently contains helpful material.

9. *Charts* to illustrate comparative areas, populations, heights, lengths, productions, etc., can be devised and made by pupils.

10. *The text-book* is but a servant—neither teacher nor pupil should be its slave.

CHAPTER V.

HISTORY AND CIVIL GOVERNMENT.

WHAT HISTORY EMBRACES.

An account of the joys, hopes, aspirations and struggles of the human race, showing the logical sequence of events or conditions, constitutes its history. What this account shall be of an existing government depends largely upon the intelligence and virtue of the people. This is especially true of republics. The happiness, the domestic and social welfare, the material, moral and intellectual development of a people depend upon the perpetuity of good government; and good government depends upon the foregoing conditions. History does not consist of disconnected facts, but is made up of related facts that follow each other according to the unchanging laws of cause and effect. A text on this subject that does not deal with the philosophy of history no longer meets the approval of educators.

History Defined.

The true historian discovers from the multitudinous facts of history the *cause* that produces some great effect; from a known effect, he finds the cause. In a republic,

where all are equally responsible for the administration of the government in the interests of the people, it is necessary for each to be a historian to some extent, at least. The True Historian.

The maximum amount that should be known by each member of society who assumes the responsibilities of citizenship has not been determined. The subject is almost as wide as has been the field of human activity. Every citizen should possess as much knowledge of the subject as his circumstances will allow; and there is a minimum below which no one should go. Waiving the point as to what should be the maximum amount every citizen should know, it is an easy matter to determine the minimum. All educators agree that every one should have at least an elementary knowledge of the history of his own country. A great majority of the educators of our country believe that our citizens should have a comprehensive knowledge of the history of the United States, and an elementary of general history, or of the history of England. Certainly every inhabitant of our great country should be able to know the development, progress, home-life and struggles of our own people. The Maximum and the Minimum Knowledge of History.

Every voter should have historic judgment. He can have this only by looking into the surrounding conditions and comparing them with similar ones in the past, or reasoning from effect to cause, or from cause to effect, enabling himself to judge of what should be the governmental policy. He then should vote as he believes is best for his country. The Historic Judgment.

government of the United States seems to be based upon the true theory—the theory of equality of all citizens. Should not every citizen be able to explain the underlying forces that have brought about every crisis our country has gone through? Should he not be able to arrive at the truth in regard to the true line of action our government should follow in the settlement of similar questions? Should not the forces at work *now* be understood in order to know whether we are in the path of progression or retrogression? Every voter should be fully acquainted with all the important facts of our history and be able to see the forces at work, and the relation between past and present events. When our citizens think for themselves on historic questions and draw their own conclusions, or study histories by impartial writers who arrive at conclusions consistent with reason, then we will have an uncorrupted and incorruptible ballot, and the policy of the government will represent the best intelligence of our people.

Governments should be the instruments through which society in every way betters its condition, giving to every member the greatest liberty and the fullest justice.

The Function of Government.

The ruling classes too frequently forget that they are only the agents of the governed and oppress the subject. That government is best that not only in theory but in practice gives "life, liberty and the pursuits of happiness." Our government is based upon this theory. Every citizen should be enabled to determine for himself whether the government is giving to him absolute and full justice.

Our government is young; the human race is young when viewed from the standpoint of time. No history goes back further than a few thousand years. Who can contradict the statement that history will be written 100,000 years from now? All future time lies before us. The happiness or misery of the human beings that are to supersede us—shall we say billions of them?—may depend upon forces we put into operation. Should we not exercise our trust faithfully? Our government has existed only an instant in comparison with the time that must necessarily come.

Age of Governments.

All mankind must be for some divine purpose—the fullfilment of which is perhaps infinitely distant in the future. That purpose must be the perfection of man, intellectually, socially and morally with a corresponding perfection in all his relations,—to his family, to his neighbors, to all mankind, to God. Government has much to do with the happiness of the people, and the intelligence of the people has much to do with government. If every citizen assists in shaping the policy of the government, it follows that his influence should be intelligently directed. In order to know the policies that have been tried, and the crises through which our nation has passed, it is necessary that he study its history.

The Sphere of Man.

Since so few of our citizens ever complete the common school course, reason would dictate that History be placed in the course of study as early as the student can study it understandingly.

History Introduced Early.

THE TEACHING OF HISTORY.

The actors who make history are human beings. The acts they perform have a cause. Every act must occur at some place and at some time. A complete knowledge of the actors, the acts, the cause of the acts, the place and time of the acts would constitute a perfect knowledge of the history of that particular period. That instructor is the best teacher of history who brings these five things together into the child's consciousness in one complete concept. As a rule these five points should be taught contemporaneously. History is nothing more nor less than an account of what has been done by men aided by their best intelligence at the time. Then to understand what they did, we must understand the people themselves. We should be able to see them as they were at the time they were making history. We should know how they looked, how they dressed, what was their home-life, what were their aspirations, the religion they had, the pursuits they engaged in, and all about them. An account of these things constitutes that silent history that too frequently is not recorded in written history. These silent forces are at work through the periods of peace, and engross the energies of all nations more than the marshaling of military forces. These silent forces bring happiness or misery according as they harmonize with or antagonize each other. Every individual adds his mite to the stock of material out of which this silent history is made. The periods of peace far exceed the periods of war. Generations live and die engaged in the industrial pursuits, or working out some social, political or religious problem. The living genera-

tion see dimly the results that are to follow their efforts. The historian unblinded by the prejudices of the age, looks back and sees the guiding principles that controlled the destiny of the departed generation.

Having seen the actors, we find what they did. We find that people differ in their relations toward one another, and in their relations toward the established government. In the former case, we find industrial, social and religious differences. The clashing of interests may be mild and of short duration, or it may be violent and long-continued. In the one case, we have local peculiarities; in the other we may have race or national prejudices.

Men differ in their ideas as to the function of government. This we call political difference. Here we have the origin of political parties. All who believe that a certain political policy should be carried out arrange themselves on one side of the question, and all who believe in some other policy arrange themselves on the other side into another party. In this way we have each party opposing what the other advocates and proposing something in its stead. This policy is formulated and called a platform. These platforms are modified from time to time as the interests of the people change, or as a given declaration is found unwise or inexpedient. Just what shall be the function of government will always be a living question. When the people fail to discuss this feature, the ruling class take more and more power from them, and impose burden after burden till their condition becomes unbearable, and revolution is the logical result. Official oppression leads to violent conflicts and tremenduous

political upheavals. The industrial, social or religious conflict, and the clash of arms between opposing forces are but the culmination of a multitude of events all having the same tendency. The teaching of history would require that these conflicting interests be pointed out clearly, and the causes clearly shown for the antagonism. True history deals with causes and effects. No teacher does justice to the subject till these are shown. The philosophy of history will be retained by students; dry facts will not be.

Geography goes hand in hand with history. Geography describes the stage on which the drama that history narrates was played. The play would be unreal if the acting were shown without the stage. The incidents of real history were intensely active, calling for the energies and even the lives of by-gone generations, and the field upon which they were enacted influenced the actors, and what they did. The topography of a country determines its boundaries, influences its commerce, gives victories or brings defeats to its armies, modifies the temper and even the religion of its people. How could history be taught without geography?

The last element is time. Some dates are necessary. They should mark the beginning and close of epochs. They should mark great historic events, and serve as pivotal points around which to group a series of events. 1492, 1607, 1620, 1643, 1660, 1763, 1776, 1789 1812, 1820, 1860 should suggest events that are vital in our history. Students should be perfectly familiar with important dates, but should not be required to waste valuable time and energy upon unimportant and meaningless

dates. The actor, the act, the cause for the act, and the place of the act are each more important than the time. In the teaching of history the order of importance is as suggested above.

SPECIAL METHODS OF TEACHING THE ADOPTED HISTORIES.

The first object of the study of history is information about past events. The style and language of Morris's Elementary History are attractive. Any student in the fourth reader who *reads* will have no difficulty in getting the "History" lesson. Lessons that are truly understood are not forgotten. A boy retains all that he sees, hears and experiences, better than older persons do. He will also remember what is brought into consciousness equally well, although it may come through the book. The teacher must train him in seeing the whole scene presented to him through the language of the lesson. The exercises in testing the student's ability to reproduce the thought of the reading lessons will be valuable in testing his ability to give the history lesson. The student who "sees" the most in a history lesson is the best prepared.

The scenes should be made as realistic as possible. As previously suggested, the people, their customs, dress, religion, the things they do, the geographical position of the act, the time of the act and all about it should be developed. The first requisite is the preparation of the lesson, or the reading of it. Upon taking up the subject it would be a good plan for the teacher to read aloud a lesson as though he were

Preparation of the Lesson.

studying it. In so doing read the lesson through, and as you do so show what thoughts or pictures come into the mind. It should not be pursued as a memory exercise, but as a living topic full of interest, full of thought. Each lesson should at its first reading place in the mind an outline of a grand picture. The second reading should develop the details of this picture and add many features and characteristics that were not seen at first. The third reading should further develop the parts already seen in dim outline, and add beauties that were not seen at first, with colorings and tintings that make the whole consistent and true to life. Such a picture would bring out the geographical back-ground, the actors as they act, or would be a historic panorama. Seeing the relations is essential. When scenes are developed in this way, they can not be forgotten, for they are fixed in the mind and are a part of it. The training in study or in developing these pictures is one of the first requisites, for the student does for himself, according to rational methods, what otherwise has to be given to him through the teacher—in other words he does his own studying.

In taking up the subject your plan should be unfolded to the class. It is better to go slowly till all have this ability. Too many make the study one of memory. Teach History through the representative powers and imagination. When any historic scene is brought into consciousness any student will find language to express what he knows. He *knows* something and can tell it, and will be anxious to tell it. He

Acquaint Students with Your Plan.

can soon be trained to give the chief features of the picture and then all minor scenes that enter into these leading features to make the whole scene complete.

The student should be able to take up the lesson and tell the whole contents. He can do so if he has it safely stored away in consciousness. All he has to do is to draw on his fund, for he has, like the mountain spring, a constant supply on hand. Memory work as frequently relied upon is not memory of facts, but of meaningless words. The words are memorized with difficulty and are given with difficulty, because there are no ideas behind them to suggest them. Words should be "signs of ideas." The energy spent in an exercise of this kind would prepare the lesson in such a way as to increase the student's stock of knowledge. Such a memory exercise has no value whatever. True memory work has its advantages, for it reproduces what is in the mind—not the words, but the ideas—the words being only the means of expressing the ideas. Then in teaching History the work should be based upon laws of mental development. The student should interpret the lessons as a whole, and each other student should be ready to supply any part of the scene that the first did not get, or to point out inconsistencies that appear, or to harmonize them into one complete historic scene. There are many aids that result in securing the result sought. However, they only assist in developing this picture and in placing it permanently in consciousness. The writers of histories realize that impressions are deepest and more lasting and often nearer the truth when they are placed in conscious-

Each Student to be able to Recite Whole Lesson.

ness in as many ways as possible. Historians, therefore, express thoughts by means of words, relying upon the pupil to interpret them in the same sense, and with the same elaborateness with which they are used. The child having had a limited experience, as compared with the author, does not get the same well-defined concept from the lesson as was in the mind of the author. Realizing this fact, they adopt language that the child is familiar with—that is, language that will have the same meaning to the student as it has to the author, viz., common language, or language that the child understands through his own experience. Some scenes or descriptions of history can not be so expressed. The author must, therefore, use language or, at least, some terms beyond the pupils'ability to grasp. In such cases the student must rely upon his dictionary or his teacher for an explanation of these. Upon this point the duty of the teacher is clear. He should first see that all members of the class know the meaning of these terms. The learning of these terms is a part of the preparation of the lesson. The teacher must see that all have prepared it, so far as is in their ability. It then becomes his duty to explain or elaborate any term or circumstances brought out.

Dictionary.

Authors realizing the difficulty of presenting scenes in language that can be understood, introduce pictures to explain or amplify what it is to be expressed. A picture appeals to consciousness through the eye and makes vivid the impressions that would otherwise be dim. The use of pictures in the teaching of history can scarcely be overestimated.

The illustrations were placed in the books for use. The study of pictures is in itself valuable. The teacher should discuss the illustrations with the class and each member should be encouraged to "see" as much as he can, and to tell all about the illustration. The pictures represent in a vivid form scenes or persons in such a way as to make the impression lasting.

Morris's History is well illustrated, and the scenes should be made to stand out and appear to be before the gaze of the class. These pictures appeal to students of all ages, and especially to those of the 5th, 6th or 7th grade. The illustration is often more valuable than the rest of the lesson. Prof. Shinn, recognizing the value of illustrations, has placed more than 150 in his History of the American People. Almost anywhere that the book may be opened an illustration will be found. By examining any of our leading histories the universal importance attached to this aid in teaching History will be recognized.

It is not enough to rely wholly upon the illustrations given in our books. The teacher or board should provide a number of large pictures of historic personages or scenes and place them upon the walls to serve as decorations, and as an inspiration to all the classes, especially history classes. The silent influence they exert upon students who have not yet taken up the subject as a formal study will be marked.

Historic Scenes as School-room Decorations.

Both Morris's and Shinn's histories contain a large number of maps. The geographical location of any historic event is necessary to a full understanding of it. The cause leading to success is often brought out in a

Maps.

map. The occupations, religions and industrial systems are influenced by the geographical position of a people. The success of an invading army is determined by the same cause. The position chosen for a fortification or for a battle-field is determined by the same condition. We have but to look at the map of the "South" to see why slavery was profitable, and at the map of the "North" to know why it was unprofitable there. We have but to see the map of New England to see why the people are engaged in manufacturing, and with this seen, we understand why they are almost unanimously in favor of a Protective Tariff. We see the great cattle industries of Texas and the states of the West, and understand why in the late war the Union forces wished to get possession of the Mississippi river and cut this section off from the rest of the South. We see the hills and mountains of Virginia and their proximity to the North and understand why more battles were fought upon its soil than upon any other. There is scarcely an event in history that is not influenced by geographical conditions. Outside of the influence that Geography has upon History, it is necessary in teaching in order to locate the events as they transpired. The mind holds events that are located. They can not appear as real unless the place of the enactment is fixed. Perhaps all good teachers of this subject agree upon this point.

To intensify the teaching the following special suggestions are made:

1. *Assigning the Lesson.* Care should be used in assigning a lesson. A short lesson thoroughly developed

is worth more than long lessons poorly prepared and recited.

2. *Thorough Preparation.* The teacher should know the time required to prepare the lesson and should encourage students to use the time suggested in intense study. *A concentration of the mind upon the lesson for thirty minutes is worth more to the student than one hour in aimless study.* Teachers must train their students to *study*—to concentrate their minds. Special Suggestions.

3. *Map Study.* Have the class make a careful study of all maps given by the author. These should be reproduced upon the board or on paper, from memory. The student should explain these with reference to the subject under consideration. A student will frequently say, with no intention of deceiving, that he understands the map when he, in fact, does not. When he draws the map, there is no chance for his deceiving himself or the teacher.

4. *Wall-Maps.* A large historical map should be made for the benefit of the room. Almost any railroad company will send maps free to teachers upon request. On one of these the teacher can mark off the "Original Thirteen States," the "Confederate States," the "Louisiana Purchase," the lands obtained by the Mexican War, the "North West Territory," and still not have the map crowded.

This can be marked off in five minutes, in different colors, or in the same colors with solid and broken lines to distinguish each division. A piece of folded paper will answer for a brush and ordinary red and black ink will take the place of paint.

Where maps are not procured, have a large map in outline placed upon the board at the beginning of the term and filled in as leading events occur. Colored crayon should be used to mark different divisions.

5. *The Institutions*—home, church, school, business and government—should be traced through their different stages of development. These five are fundamental elements in the history of any nation, and should be kept constantly in mind.

6. *Supplementary Reading.* Other school histories, and reference books should be consulted by both teacher and pupils. Articles from magazines, newspapers and school journals are valuable aids in intensifying the subjects under consideration.

Poems are among the best means of bringing out historical facts. "Grandmother's Story of The Battle of Bunker Hill" fixes indelibly an event that marks an epoch in our history. "Liberty Bell" makes vivid the scenes connected with the Declaration of Independence. Our books teem with articles, both prose and poetry, that are most valuable as supplementary to the History Lesson.

7. *Biographies* of typical characters will do much towards making the History facinating. Historical characters are but typical of the whole people, and when we learn about one we know substantially about all. Strong personalities are brought out and viewed in the light of history as models to be imitated or as undesirable examples to follow, as the case may be. Characters of students are built up by studying characters of typical men. In the study of biographies, students learn the elements that

brought success to others. Biography strengthens character and fixes high ideals in the minds of students. The boy who can recognize a hero has in his mind the elements that make up a hero, and with this information comes the desire to be a hero. From the student's standpoint biography is inestimable. The life of Washington, Jefferson, Lincoln, or any other great American would be valuable home-reading for any member of the history class. The teacher who can induce a student to read a good biography has rendered him a great service.

8. *Outlines* are valuable and can be used to good advantage where the class is large and the teacher wishes to test all upon the work. Each student should be encouraged to provide himself with a book for the purpose of outlining the entire subject. In this way the student's knowledge becomes systematized. The same general classification should be followed as is followed by the authors of our adopted books. There is one danger here: He may rely too much upon his book and pencil.

9. *Debates.* To stimulate investigation and to develop historic judgment a debate occasionally, conducted according to parliamentary usages, will be most helpful. Teachers who have never tried this plan will be surprised at the results.

10. *Omission of Details.* Many unimportant details may be omitted. "Killed," "wounded," "missing," "accompanied by two Indians and his dog," etc., add but little to an account of some important event. The teacher who regards such details as history should hasten to change his view.

11. *The Teacher.* The teacher must know his subject and must be interested in it before he can successfully teach it. The hard-working, thoughtful teacher will find new ways daily of interesting a class.

CIVIL GOVERNMENT AND HISTORY OF MISSOURI.

By reference to the Course of Study found elsewhere in this book, it will be seen that three plans of teaching Civil Government and History of Missouri are proposed.

It is not deemed advisable to enter into a full discussion of this subject as it is not thought that teachers will have any serious difficulties in teaching it. We, therefore, offer the following brief

OBSERVATIONS AND SUGGESTIONS.

1. Some of the merits of the first plan are as follows: The History of Missouri will be an admirable work to follow Morris's Elementary History and to accompany Shinn's History through the periods of discovery, settlement and development of the colonies. The Civil Government of the United States and of Missouri is made to accompany Shinn's History through the constitutional period.

2. Some teachers, no doubt, will prefer the second plan for the reason that an elementary knowledge of history is given in the sixth year, and that it is desirable to give a student a knowledge of civil government as early in his school life as is consistent with a thorough understanding of the subject.

Other teachers will prefer the third plan in order to intensify the teaching of the various topics, and to give a

longer time for mental growth in these subjects.

4. Whatever plan may be adopted, it is desirable that students recite with *real interest.*

5. In civil government, the departments of government should be outlined by the students and developed as they are divided and subdivided, each subdivision being traced to the larger division of which it is a part.

6. In speaking of officers, name those representing the students in the various capacities, as governor, etc.

7. Make use of the proceedings of Congress from day to day.

8. Make use as they occur, of the political proceedings of parties in the nomination of officers.

9. Have the pupils to make a map of the United States, showing United States judicial circuits, and the United States districts in Missouri.

10. Have Missouri drawn, showing congressional districts, naming representatives from the student's district and from adjoining districts.

11. Use historical events to intensify principles laid down in the constitution.

12. Make the present administration an example to show how the affairs of government have been conducted in the past.

13. Teach the philosophy of government. Disconnected facts are worth but little. The main subjects should be elaborated by the pupils, and bound together into a consistent whole.

14. The similarity between our state and national governments should be shown.

15. The suggestions upon the United States constitution are, in the main, applicable to the state government.

16. These subjects should be taught in such a way as to arouse in the student a desire to perform all of the political functions devolving upon him as a citizen of the greatest and best republic that ever existed.

17. The history of Missouri should make us all proud of our grand state and to do what we can, as citizens, to build up her institutions, and develop her resources. The history of Missouri has been neglected, and should be so no longer.

18. Teachers should know their subjects in all branches before they attempt to teach them. Since this subject has been so neglected, special preparation should be made to make it interesting from the beginning.

CHAPTER VI.

PHYSIOLOGY.

Reference to the course of study (page 27) will reveal two important recommendations: first, that lessons on the human body begin with the first year and extend through the course; second, that text-book physiology be deferred to the eighth, or last year. It is believed that these recommendations are wise. They are based upon the theory that the general facts of physiology and a helpful knowledge of hygiene can be obtained from the oral lessons of the first seven years, and that with an additional year devoted to consecutive daily study the pupil will acquire a satisfactory degree of familiarity with the entire subject. Eight years is a long time to devote to a single subject, and when we consider the aims of physiology teaching in our public schools, we must admit that even moderate progress should take the pupil over the entire journey.

How Much?

For the best results from the study of this subject, it is desirable that it should be studied correctly as far as possible. In lessons on bones, let the bones be examined. Where illustrations can be shown or demonstrations made,

let them not be omitted. By means of specimen parts obtained from the butcher or the farmer at "butchering-time" the parts of the human body can be better taught. Constant reference should be made to the pupil's own body and the parts located. A child ought to know whether his liver is in his abdomen or his left breast, and yet a popular institute worker tells of the varied results obtained from the direction, "Put your hand over your liver," and he was talking to teachers.

A few of the points to be emphasized are these:

1. The sanctity of a pure and healthy body.

2. The dependence of happiness and usefulness upon a good body.

3. General bodily hygiene.

4. Hygienic conditions—air, food, water, exercise, sleep.

5. Emergencies—what to do till the doctor arrives.

6. Effects of tobacco and alcohol.

7. Drawing as a means of expression and a test of comprehension.

On the other hand, there are a few to be avoided. The following are examples:

1. "Book work," i. e., memorizing what the book says in the exact manner it says it.

2. Attaching significance to the *names* of the various muscles and bones—particularly those of "learned length."

3. Contradicting class teaching with actual living.

CHAPTER VII.

VERTICAL WRITING.

A GREAT majority of Missouri teachers have never (April, 1898) taught vertical writing. The system has come to stay at least five years, and perhaps permanently. It is necessary therefore for all Missouri teachers to learn the merits of the system at the start, and not wait till they "pick them up." A great majority of the teachers who have tested it pronounce it a great improvement over the system formerly used.

The Vertical System.

No teacher should pronounce the system good till he has tested it, nor pronounce it a failure until that fact is demonstrated. In considering the merits of any text-book the objects for which it is intended should be of first importance. Writing is meant to be read. Writing is a "practical" subject and should be given more attention by the country teachers, and by a great many in the villages and cities, than it receives. In hundreds of districts no attention is given to the subjects at all. Why? Much time is given to "practical" subjects. What is more "practical" than writing? We have almost daily use for writing, and use

Writing a Practical Subject.

it many times as often as we do the very popular subject of Arithmetic.

Every pupil has the right to demand that he be given the ability to write a letter with pen and ink within his first school year. Every teacher should feel that the present is the last year that the six-year-old is going to attend school; that all the training for the business affairs of life will be given in this year. Were this the case, would it not be our duty to confer this ability as early as possible? Then is it not our duty to do so anyway? The reply that it can not be done can not be accepted, for it is being done by hundreds of teachers.

From the Student's Standpoint.

From the teacher's standpoint there is perhaps no subject by which he can do more legitimate advertising than through the writing. The written exercise, the spelling, the language lesson or a letter written on a slate or tablet sent home by the little boy or girl for inspection, will do much toward strengthening the teacher in the estimation of the patrons. The written work of a school is a good test of the work being done. If a teacher can find time for *any* subject the writing lesson should not be omitted.

From the Teacher's Standpoint.

SPECIAL SUGGESTIONS UPON TEACHING VERTICAL WRITING.

1. The teacher should be acquainted with every detail of the system in use.

2. The time assigned in the program to this subject should not be encroached upon by any other subject.

3. At the opening of the recitation, have the students

appointed for that purpose distribute the material quickly and quietly.

4. Only three things are necessary in writing: 1. A correct conception of the letter or word; 2. Training of the muscles till this mental image can be projected upon the paper or board; 3. Practice till the correct form becomes automatic. Before beginning have the class to examine the copy to be written. Call attention to any features that need special attention. Write any letter or word on the board that presents any special difficulty, the class observing the way the work is done. To impress the form of a word upon the mind, it is often a good plan to have pupils look from the book and imagine how it appears. Have the class trace it in space with you. Next have each write the letter or word on practice paper. Next have each to compare his work with the copy, and see where it differs. The teacher should also note where the students fail to execute the work properly. The object is to get a clear and correct concept of the form of a letter in the mind, and then to train the hand to project this mental image upon the paper. No student with an incorrect concept can write a correct form. The object of the repeated attempt is to train the muscles in executing the correct form—in establishing the correct muscular *habit*. When the student has put forth his best effort, and has reached something like the best results, allow him to put a definite amount in his copy book. Impress upon him that the copy book is to be used to put his specimens in, and should be a model of cleanliness, neatness and correctness. Teach the students that it is not *how much* but *how well*

they do their work that gives them skill. The practice paper should be used at least each alternate day. In mixed schools, the teacher should pass from class to class, first fixing the mental images while the other classes are writing. All members of a class should work in concert. Some will want to go in advance of the others. Do not permit them to do so.

5. On the day the copy-book is used give a definite number of lines to be written, and see that each does no more. Train the students to continue to compare their writing with the correct form, the copy. The last line the student writes upon a page should be the best one. If it is not, the teacher can rest assured that the student has ceased to examine his copy. When the student approximates the correct form, practice is necessary to establish the habit of correct writing, and as the habit of correct writing strengthens, correct writing becomes more and more *automatic*.

6. When the teacher sees that several are meeting the same difficulty, he should have the class stop their work, and show on the board what the error is and how to correct it. If only one or two are making it, he can show them individually.

7. To meet with complete success the student must have a *desire* to write correctly. Show that correct writing comes from the correct mental "picture" of the letters, being traced out by the muscles. Show him that the muscular part is the result of habit. Do so in this way: Have several students go to the board and write any line you may dictate. When they have done so, challenge each to

write it in a different "hand" immediately below. They can not do so—because they have formed a writing habit. Show them that it will take time to establish a correct writing habit, but when once formed it is as hard to break as the incorrect was.

8. Give attention to the general appearance of the writing books. See that the margins are of proper width, that too much ink is not used; that there are no ink spots on the paper; that the writing is uniform in size throughout any page. Call attention to the fact that the curves are very round and that a large number of the letters are modifications of the vertical straight line.

9. Require all written work to be done neatly and according to the vertical system. Students will not like to do this at first, but it is best for them to make the change at once. If they continue to use the slant writing in written work and the vertical in the writing books, they are working against themselves. We learn writing for its use. We should learn it in the form that we use it.

10. The change will be distasteful to teachers and pupils at first. The teacher can do much towards making it popular by telling the students that it is new to them, and they will like it in a short time. In a large majority of cases this is true. Students like it better than the old system because it is *easier*. Teachers like it better because they get better results in shorter time.

By permission of D. C. Heath & Co., the publishers, the following extracts have been taken from the "Teachers' Manual" that accompanies the adopted writing books.

They are from the authors of the "National System of Vertical Writing," Messrs. A. F. Newlands and R. K. Row, and represent the best thought upon the subject.

SPECIAL FEATURES.

The NATURAL SYSTEM presents a much narrower page than most copy-books. In the plan of the books the needs of very young beginners have been first considered. It is realized that most writing, even by adults, is done upon very narrow note paper, and that it is when the beginner tries to carry the pen more than a few inches to the right of the median line of the body that the mischievous twist of the body begins. Therefore the narrowest page consistent with the presentation of a connected sentence for copy is the best for the beginner.

Narrower Page.

The NATURAL SYSTEM uses only a base line, thus leaving a fair, clear, and attractive space for the pupil's work and presenting an absolutely hygienic page. Another great mistake, akin to the use of space-ruling is the use of tracing copies. The reason for their introduction was probably the same; namely, to compel, as far as possible, the young child to make the letter forms precisely the same as the copy. They sometimes accomplish this purpose, and the work is shown by teachers and others as an exhibition of marvelous skill. As a matter of fact it only shows how children can be led to work at such stupid and stupefying toil as guiding the point of the pen up and down, in and out, along a maze of lines usually so faintly printed as to be

No Guide Lines or Tracing Copies

trying to the eyes. While engaged in this senseless, wasteful, harmful practice it is impossible for a child to really see the form of the letters, and the work in no way demands that he should observe them. Whereas, learning to write requires that one should perceive clearly, not the whole essential form of the letter to be made, but also its relation to adjacent letters in the word.

The authors of the NATURAL SYSTEM OF VERTICAL WRITING have, in pursuance of their plans to confront the beginner with as few difficulties as possible, presented letter-forms as nearly like those of print as is consistent with ease in making the form with a pen. The result is that any child who can read print can read the letters of this system at sight, and has to learn practically but one form of the letter.

Simplification of Letter-Forms.

The NATURAL SYSTEM conforms exactly to the hygienic principle, that as the first movements of the child are made by means of the large muscles which are first developed, and are therefore movements of a vague character and imperfectly controlled, whereas skillfully made movements of a minute sort depend on the small muscles which are latest differentiated and brought under control, it is in the highest degree wrong to set children to copying small letters made with hair lines. It is wholly unnatural for young children to make small forms, and undesirable that they should; they tire and become irritable if forced to do it. Observe their sewing and drawing as well as their unrestricted writing. Moreover, the correct form is much more easily and clearly perceived in large forms than in small ones, and the move-

Large Copies.

ment used is infinitely freer and more natural. All persons familiar with kindergarten practice know the revolution which is taking place in it and the greatly increased size of the objects now used as well as the great increase in amplitude of the movements and the manipulations now required. So far from the ultimate size of letter being the proper one for a *beginner*, the child should be confronted with a very large copy, made with very emphatic and clearly distinguishable lines in which the letter form can be clearly seen and studied, and the size of the letters should be gradually reduced as the pupil's control of his muscles increases. The importance of this principle cannot be overstated. Moreover, it is recognized that the size of the letter which the child will ultimately make will, and properly so, depend upon his own choice, and not upon an arbitrary standard of the copy-book. Every one knows that not all the school drill of the past has been able to establish a uniform size of letter or control the size of handwriting beyond the school period. In business and social life every person finally adopts and uses the size of letter which his taste, temperament, and convenience dictate, and the great diversity in this matter no more excites comment or thought than do the different sizes of type used in books or in the headlines and news columns of our daily papers.

In the NATURAL SYSTEM the proportion between the height of the short letters on the one hand, and the stem, loop and capital letters on the other, is the very simplest one that the mind can entertain, viz.: The height of the short letters is half that of the stem, loop and capital letters.

Proportion.

In most copy-books the first drill is upon single letters or even upon a fragment of a letter, a process of course monotonous, and lacking interest to the child. The NATURAL SYSTEM begins with letters grouped in words, and words of real interest to the children. This is in strict accordance with the modern method of teaching reading, and we think will be recognized as right.

Grouping.

MATERIALS.

It has been found that the most hygienic school desk is one having a slope of at least fifteen degrees, adjustable as to height and distance from the pupil. In vertical writing it is essential that all lines shall be strong, hence the pens must be of at least medium breadth and firmness, and very smooth. Pen and ink should be used from the first. In schools where provision is not made for the use of pens and ink in the lowest grade a substitute will be found in a large, soft pencil.

Desk, Pens and Pencils.

THE WRITING LESSON.

It must be remembered that the child does not try to reproduce directly on paper the copy before him. It is rather the mental image acquired by looking at the word or letter that his hand tries to represent on the paper. Hence, an important part of the writing lesson is to train the pupils in accurate perception of the forms and relations of the letters. This requires on the part of the pupil a careful, scrutinizing

Training in Getting Clear Concepts.

observation of each word of the copy so that the first general perception of the word as a whole is followed by a detailed analytic perception of the letters, their proportions, and relations, and then a re-grouping of these detailed concepts in a clear image of the whole word. For this reason when taking up a new copy, especially in the primary grades, it is best for the pupils to have separate sheets of practice paper. Let the pupils look at the copy for a short time, then close the copy-book and write it on their practice paper. They should then open the book, compare their reproduction with the copy, and this should be repeated until the pupils show that they have a fair concept of the form of the copy.

Allow no Careless Writing.

While it is desirable to cultivate a reasonable degree of freedom, especially in the higher grades, there should be no careless work in the copy-books. If a pupil manifests a disposition to scribble, he should be limited to the practice paper until he shows that he is willing to do his best. Let the writing of a copy in the book be a privilege, to be accorded in the first place as a sort of promotion from the initial lesson on the practice paper, and subject to forfeiture at any time subsequently, upon unmistakable evidence of indifference.

Ordinary Class Writing.

No one need expect good results in writing who insists upon careful work only during the few minutes of the special writing lesson, and then permit carelessness in all other written work. In the public school course all writing must be considered training in writing, and more depends upon the way the pupils are led to do their general work than upon

special preparations for, or skill in conducting the special lesson.

What has been said of the formative force of the pupil's general work is also true of the teacher's work. The teacher whose blackboard writing is uniformly neat and legible, will generally have a class of uniformly good writers, and one whose general work is indifferent or poor will find these characteristics reflected in the work of his class.

The Teacher's General Writing.

APPENDIX.

REFERENCE BOOKS AND SUPPLEMENTARY READING.

In the preparation of the following lists two general aims have been kept in view—to select books that would be especially helpful in the teaching of the Adopted Text-Books, and such as would impart a desirable type of culture including a taste for good literature. While the books are classified under "Language," "History," etc., it must be remembered that a book that is suitable reading for the work in Geography can be made the basis for work in Language. In short, the several forms of mental culture are related and inter-dependent.

The books named in these lists can be procured from several publishers whom we can recommend as reliable.

In the accompanying lists the following abbreviations are employed:

A—American Book Co., Chicago.

Ap—D. Appleton & Co., New York.

B—Boston School Supply Co., Boston.

E—Educational Pub. Co., Boston.

Es—Estes & Lauriat, Boston.

G—Ginn & Co., Chicago.

Ha—Harper Bros., New York.
He—D. C. Heath & Co., Chicago.
H & M—Houghton, Mifflin & Co., Chicago.
L—Lee & Shepard, Boston.
P—Public School Pub. Co., Bloomington, Ill.
S—Chas. Scribner's Sons, New York.

GRADE.	READING AND LITERATURE.	LANGUAGE.	GEOGRAPHY.	HISTORY.
FIRST.	1. The River Side Primer and Reader, H. & M. 2. Æsop's Fables, Vol. 1. E.	1. Cats and Dogs, A. 2. Stories for Children, A. 3. Heart of Oak Series, H. 4. Five Cent Classics, E. See Reading and Literature.	See Language.	
SECOND.	1. Fables and Folk Stories, H. & M. 2. Hans Andersen's Stories, H. & M. 3. Æsop's Fables, Vol. II. E. 4. Verse and Prose for Beginners, H. & M.	1-4. Same as first grade. 5. Fairy Stories and Fables, A. 6. Friends in Feathers and Fur, A. 7. Stories of Great Americans, A. 8. Stories of Industry, E.	1. Seven Little Sisters, L. 2. Philips' Geog. Readers, B. See Language.	1. Stories of Great Americans for Little Americans, A.
THIRD.	1. Fifty Famous Stories, A. 2. Robinson Crusoe for Little Folks, E. 3. See 4, Grade Second.	1-8. As in first and second. 9. Child's History of U. S., G. 10. Robinson Crusoe, P. or A.	1-2. As above. 3. Each and All, L. 4. Aunt Martha's Corner Cupboard. 5. King's Geog. Readers, L. 6. All the Year Round. 7. World and Its People, S. 8. Stories of Industry.	1. Stories of Our Country, A. 2. Stories of Heroic Deeds, A.
FOURTH.	1. Robinson Crusoe, A. 2. Selection from Whittier's Child Life in Prose, H. & M.	1-10. As above. 11. Old Greek Stories, A.	All of foregoing.	1. American History Stories, Vol. I., E. 2. Stories of Great Men, E.

FIFTH.	1. Hawthorne's Grandfather's Chair, (three parts) H. & M. 2. Longfellow's Hiawatha, H. & M.	Nearly all of foregoing: 12. Story of Troy, A. 13. Life of Lincoln, E. 14. Pioneer Hist. Stories, P. 15. Story of Troy, A. 16. Greek Heroes, G.	2, 5, 8. As above. 9. Carpenter's Geography Reading, H.	1. Stories of Other Lands, A. 2. American History Stories, Vol. II, E. 3. Our Fatherland, E. 4. See 12, 13, 14, 15, 16, Language.
SIXTH.	1. Same as No. 1 in Fifth. 2. Hawthorne's Wonder-Book H. & M.	See Reading and Literature. History and Geography.	2. 5, 8, 9. As above. 10. Boy Travelers, Ha.	1. Holmes' Grandmother's Story of Battle of Bunker Hill, H. & M. 2. American History Stories, Vol. III, E.
SEVENH.	1. Evangeline, H. & M. 2. Addison's DeCoverly Papers, G. 3. Studies in Longfellow, Whittier, Holmes and Lowell, H. & M.	See Reading, Geography and History.	Same as Sixth. 11. Johonnot's Geography Reading, A. 12. Zig Zags, Es.	1. Stories of the Greeks, A. 2. Cortes and Montezuma, E. 3. See. 2, in Sixth, Vol. IV., E.
EIGHTH.	1. Lowell's Vision of Sir Launfal and Other Pieces, H. & M. 2. Snow Bound, He. 3. Scott's Lady of the Lake, G	See Reading and Literature.		1. Stories of the Romans, A. 2. Shepherd's Historical Reading, A.
For Teachers.	Masterpieces of American Literature, H. & M. Masterpieces of British Literature, H. & M.		Shaler's First Book of Geology, Ap. Methods and Aids in Geography, King, L.	1. Fisk's History of the U. S. H. & M.

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